

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |     |
| Cys | Thr | Arg | Ser | Ser | Pro | Ser | Ser | Cys | Trp | Thr | Gly | Thr | Leu | Leu | Gln |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ala | Val | Ser | Ser | Val | Gln | Val | Leu | Ser | Phe | Cys | Leu | Gln | Lys | Val | Cys |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Ser | Ile | Trp | Cys | Ser | Cys | Leu | Met | Pro | His | Thr | Gly | Asp | Ala | Pro |     |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |

&lt;210&gt; 3183

&lt;211&gt; 1457

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3183

```

ncgtacgtgt catgcattgt catgacaccc tcattgtgtg tcgcatgtcc ccaattgatc
60
acacatatcc cagctaatagc agggactacc tttgtccaga cccagctcct ggttcccaaa
120
aaagttctcc ctgagagctg caggctgtcc tggaatctcc tcggggatga ggcagctgcc
180
gagctggccc aggtgctgcc gcagatgggc cggctgaaga gagtggacct ggagaagaat
240
cagatcacag ctttgggggc ctggctcctg gctgaaggac tggcccaggg gtctagcatc
300
caagtcaccc gcctctggaa taacccatt ccttgcgaca tggcccagca cctgaagagc
360
caggagccca ggctggactt tgcttcttt gacaaccagc cccaggcccc ttgggtact
420
tgatggcccc ctcaagacct ttggaatcca gccaaagtat gcacccaaat gatccacctt
480
tcgcccactg ggataaatga ctcaggaaag aagagcctcg gcagggcgct ctgactcca
540
cccaggagga aggatacgtg tgtcctgctg cagtcctcag ggagaacttt tttgggaacc
600
aggagctggg tctggacaaa ggagtaccct gcattacgtg ggatatgtgt gatcaattgg
660
ggacatgcga cacacaatga ggggtgcatg acaatgcatg acacgtacgg ttatatgtgg
720
cagtgtgacc ccttgacatg tggcgttaca tgaaagtcag tgtggcacgt gttctgtggc
780
atgggtgctg gcatcccaag tggcaggata catgattgtt ggtctatata tgacacatga
840
caaatgtcca tgacacagga ctcatggctg gccagatgac ctcaggctgg cccaagatct
900
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960
caggaaaagt cttccgcccc agctgggagg ggagagtgtc catgcactga ccagtccagg
1020
ggctcaaggg ccagggtctt ggaacaagcc agggactcag ccattaagtc cctcctgcc
1080
tcaatctca gcctacccat ctataaactt gatgactcct cccttactta catactagct
1140
tccaaggaca ggtggaggta gggccagcct ggcgggagtg gagaagccca gtctgtccta
1200

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tgtaagggac aaagccaggt ctaatgggtac tgggtagggg gcactgccaa gacaataagc  
 1260  
 taggtactg ggtccagcta ctactttggt gggattcagg tgagtctcca tgcacttcac  
 1320  
 atgttaccca gtgttcttgt tacttccaag gagaaccaag aatggctctg tcacactoga  
 1380  
 agccaggttt gatcaataaa cacaatggta ttccaaaaaa aaaaaaaaaa aaaaaaaaaa  
 1440  
 aaaaaaaaaa aaaaaaa  
 1457

<210> 3184  
 <211> 140  
 <212> PRT  
 <213> Homo sapiens

<400> 3184  
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 1 5 10 15  
 Pro Gln Leu Ile Thr His Ile Pro Arg Asn Ala Gly Tyr Ser Phe Val  
 20 25 30  
 Gln Thr Gln Leu Leu Val Pro Lys Lys Val Leu Pro Glu Ser Cys Arg  
 35 40 45  
 Leu Ser Trp Asn Leu Leu Gly Asp Glu Ala Ala Ala Glu Leu Ala Gln  
 50 55 60  
 Val Leu Pro Gln Met Gly Arg Leu Lys Arg Val Asp Leu Glu Lys Asn  
 65 70 75 80  
 Gln Ile Thr Ala Leu Gly Ala Trp Leu Leu Ala Glu Gly Leu Ala Gln  
 85 90 95  
 Gly Ser Ser Ile Gln Val Ile Arg Leu Trp Asn Asn Pro Ile Pro Cys  
 100 105 110  
 Asp Met Ala Gln His Leu Lys Ser Gln Glu Pro Arg Leu Asp Phe Ala  
 115 120 125  
 Phe Phe Asp Asn Gln Pro Gln Ala Pro Trp Gly Thr  
 130 135 140

<210> 3185  
 <211> 1433  
 <212> DNA  
 <213> Homo sapiens

<400> 3185  
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 120  
 cctggtaacc tgaggaggtg tagagcacc cagaaggaagg gtaaaagcag ggggcaaagc  
 180  
 ggtggccctc cttttctggg ggtcacttct gggctggggc cagctgaaac ctgtgtccaa  
 240  
 gtagctttca gggctggcca caccctaagc cttgcaaaag ggctcctgc aagggtggc  
 300  
 ccatggggtc ccaccttcc cagccagtga ggtagcatg gttaggagtc cacatgtgtg  
 360

caagtgcctg tgtggaggct catgtatgca tgtgtgtata tgcaaagctg cacatgacaa  
 420  
 tgtgcatgcc agtccagagt tagatgtacc tatgcagttg ccctcaagcg aagggtcata  
 480  
 ttggaaaca aggatggctc taaacatgta agcgtgcatg tgggcatgta tgtatctggg  
 540  
 gcctaaggag gtggggaagt ggggtgtggg gtaagggctg gccttcaggg catttgcaga  
 600  
 aggaggagtg ggtgggaggg aaaggctggg cagagcaggg gaaggagtga aagccaggca  
 660  
 ggaaagtgga agaacaggag aagctcatgt aatggattac cctccacagg attatgttcc  
 720  
 ttgattcctg agagtttttt ctcttgattt taccctcctca gtctatcact gcaagagaaa  
 780  
 gaggtagaaa agacaaacag accacaaaag acaagaaccc agacatatag acagacgcac  
 840  
 ctgttgcattg tgcattgagc agagcctggg agagaagaga gagcgtgcaa gagagagctc  
 900  
 agagcaggca ggcagccac cccctgcagc agtgctgggc ttcactggag cccctgcagg  
 960  
 aagtccagca gccctgtatg ccactcctct ggtttgtcca ggtaacaggg gtgccccgcc  
 1020  
 cccttcattg tcagcaccgc gtgggtgggc agctgcttca ggtgctcaaa gctgggtctga  
 1080  
 cccatggggc cctgggtctc atatacaatc agagctggag tctgagagga aggatagggg  
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 ggtggggcag agtcaacagg acctgccata gcatccccag ccctccccac ttcagtctct  
 1200  
 tcctgggacc accccatatt agggagagag acaagctggc ccagtgggtg ggggcacaga  
 1260  
 ttggtgtctg cccagaaca cagtttagca cagggtcttg cacagtagtc tgctgagtaa  
 1320  
 accaaaaggg tggagttggg tggtcagctc ctcccagaag acacccttg attatccagc  
 1380  
 cccagatga ggaaagccca ggatgcaccc ttccttgctc ctggcagggc acc  
 1433

<210> 3186

<211> 112

<212> PRT

<213> Homo sapiens

<400> 3186

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Pro | Leu | Leu | Trp | Phe | Val | Gln | Val | Thr | Gly | Val | Pro | Arg | Pro | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| His | Asp | Gln | His | Pro | Val | Val | Gly | Gln | Leu | Leu | Gln | Val | Leu | Lys | Ala |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Leu | Thr | His | Gly | Val | Leu | Val | Ser | Ile | Tyr | Asn | Gln | Ser | Trp | Ser |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu | Arg | Gly | Arg | Ile | Gly | Gly | Trp | Gly | Arg | Val | Asn | Arg | Thr | Cys | His |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ser | Ile | Pro | Ser | Pro | Pro | His | Phe | Ser | Leu | Phe | Leu | Gly | Pro | Pro | His |
| 65  |     |     |     | 70  |     |     |     |     |     | 75  |     |     |     | 80  |     |
| Met | Arg | Glu | Arg | Asp | Lys | Leu | Ala | Gln | Trp | Val | Gly | Ala | Gln | Ile | Gly |

85 90 95  
 Val Cys Pro Arg Thr Gln Phe Ser Thr Gly Leu Gly Thr Val Val Cys  
 100 105 110

<210> 3187  
 <211> 860  
 <212> DNA  
 <213> Homo sapiens

<400> 3187  
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 60  
 tatctaccag gagacggagt ttcgctatgt ttcccagact ggttttgaac tcctggccta  
 120  
 aagtggctct cccgcctcgg cctcctgagt agctgggatt acagatatgt tcctaaaaca  
 180  
 tccctgagtt caccaccttg gccagaagtt gttctgccag acccagttga ggagaccaga  
 240  
 caccatgcag aggtcgtgaa gaaggtgaat gagatgatcg tcacggggca gtatggcagg  
 300  
 ctctttgccg tgggtgcactt tgccagccgc cagtggaagg tgacctctga agacctgatc  
 360  
 ttaattggaa atgaactaga ccttgcgtgt ggagagagaa ttcgactgga gaaggtcctg  
 420  
 ctgggtgggg cagacaactt cacgctgctt ggcaagccac tcctcgggta atggctgtga  
 480  
 agtgctgggc tttgtctggg gctccagggc tggacatgca gacagtggtc acagtgcaat  
 540  
 taggccagaa aggatcttgt tcgagtagaa gccacagtca ttgaaaagac agaatcatgg  
 600  
 ccaagaatca ttatgagatt caggaaaagg aaaaacttca agaagaaaag aagtaagtta  
 660  
 gagaaagtac cgctgggccc tgttgacagg tgctgggtgc ccaggcgcat gcggacggag  
 720  
 ggtgtggggc acgtgggtct cgggacagga agcccaggca ggtctcaacc tggctgccac  
 780  
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 840  
 ctctccacg ctccacgct  
 860

<210> 3188  
 <211> 120  
 <212> PRT  
 <213> Homo sapiens

<400> 3188  
 Thr Pro Gly Leu Lys Trp Ser Ser Arg Leu Gly Leu Leu Ser Ser Trp  
 1 5 10 15  
 Asp Tyr Arg Tyr Val Pro Lys Thr Ser Leu Ser Ser Pro Pro Trp Pro  
 20 25 30  
 Glu Val Val Leu Pro Asp Pro Val Glu Glu Thr Arg His His Ala Glu  
 35 40 45  
 Val Val Lys Lys Val Asn Glu Met Ile Val Thr Gly Gln Tyr Gly Arg

```

      50              55              60
Leu Phe Ala Val Val His Phe Ala Ser Arg Gln Trp Lys Val Thr Ser
65              70              75              80
Glu Asp Leu Ile Leu Ile Gly Asn Glu Leu Asp Leu Ala Cys Gly Glu
      85              90              95
Arg Ile Arg Leu Glu Lys Val Leu Leu Val Gly Ala Asp Asn Phe Thr
      100              105              110
Leu Leu Gly Lys Pro Leu Leu Gly
      115              120

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&lt;210&gt; 3189

&lt;211&gt; 440

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3189

```

nngggccctt aagggcatgg atggggccgg actctggcct ggctgtcaac aagagggctg
60
agcctgggga agcaagtccc tgttttcagt accacctgca tccccaggg cagcatcctt
120
gactcccctt ctgggccagt gctgccctgc tttctctgtc tctttcaggg tgtgctgtcc
180
gacctcacca aagtgacccg gatgcatgga atcgacctg tgggtgctggt cctgatgggtg
240
ggcatgggtga tgttcaccct ggggttcgcc ggctgcgtgg gggctctgcg ggagaatata
300
tgcttgctca actttgtgag tggccacaga gacaagagtg ggatatgatg caatggggta
360
caggctctgc tgggcaggat tatatgttac ctggtcagag caggtggcag ctcttaggag
420
cctcccctat ggccctgcc
440

```

&lt;210&gt; 3190

&lt;211&gt; 111

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3190

```

Gly His Gly Trp Gly Arg Thr Leu Ala Trp Leu Ser Thr Arg Gly Leu
1              5              10              15
Ser Leu Gly Lys Gln Val Pro Val Phe Ser Thr Thr Cys Ile Pro Gln
      20              25              30
Gly Ser Ile Leu Asp Ser Pro Ser Gly Pro Val Leu Pro Cys Phe Leu
      35              40              45
Cys Leu Phe Gln Gly Val Leu Ser Asp Leu Thr Lys Val Thr Arg Met
      50              55              60
His Gly Ile Asp Pro Val Val Leu Val Leu Met Val Gly Met Val Met
65              70              75              80
Phe Thr Leu Gly Phe Ala Gly Cys Val Gly Ala Leu Arg Glu Asn Ile
      85              90              95
Cys Leu Leu Asn Phe Val Ser Gly His Arg Asp Lys Ser Gly Ile
      100              105              110

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<210> 3191  
 <211> 266  
 <212> DNA  
 <213> Homo sapiens

<400> 3191  
 cggaggccga cgggctgata gtccctgtt ccgtgtccgc tacttgagcc atggaccggg  
 60  
 accttttgcg gcagtcgcta aattgccacg ggtcgtcttt gctctctcta ctteggagcg  
 120  
 aacagcagga caatccacac ttcgtagcc tcttgggggc ggccgccgag ccagcccggg  
 180  
 gcccgccgcc ccagcaccgc ttgcagggca gaaaagagaa gagagttgac aacatcgaga  
 240  
 tacagaaatt catctcccaa aaagcg  
 266

<210> 3192  
 <211> 84  
 <212> PRT  
 <213> Homo sapiens

<400> 3192  
 Met Asn Phe Cys Ile Ser Met Leu Ser Thr Leu Phe Ser Phe Leu Pro  
 1 5 10 15  
 Cys Asn Gly Cys Trp Gly Gly Gly Pro Arg Ala Gly Ser Ala Ala Asp  
 20 25 30  
 Pro Arg Arg Leu Arg Lys Cys Gly Leu Ser Cys Cys Ser Leu Arg Ser  
 35 40 45  
 Arg Glu Ser Lys Asp Asp Pro Trp Gln Phe Ser Asp Cys Arg Lys Arg  
 50 55 60  
 Ser Arg Ser Met Ala Gln Val Ala Asp Thr Glu Gln Gly Thr Ile Ser  
 65 70 75 80  
 Pro Ser Ala Ser

<210> 3193  
 <211> 567  
 <212> DNA  
 <213> Homo sapiens

<400> 3193  
 nctgaccaca tctccgaccg cgtaaggtta ccgaagccat ggtgggaaga gctggactcc  
 60  
 acagcctgcc tgagtgttca gatccaggct ctgccagag ctggatgtaa atttatgacc  
 120  
 tggagtgagt tgttttgccc ctctgagcct cagtttctcc atctgtgaaa tggggacaac  
 180  
 agcagttcct tccaggaggg taaaaggagg agaaaaagaa tgcagatcca gccctcggca  
 240  
 gagtcagcgg ttcattgctt gcattgcaaag tgcccagccc ctggctcaaa gtctgtgttc  
 300  
 atccagacct ggggttaacta ctgtcttctc tatgttggtc ctgtggggac gcttggggct  
 360

gctggcctcg tgattcctct ctttccctgc aggccacggc tcacctactt ccccttctcc  
 420  
 ctgggccacc gctcctgcat cgggcagcag tttgctcaga tggaggtgaa ggtggcatg  
 480  
 gcaaagctgc tgcagaggct ggagttccgg ctggtgcccg ggcagcgctt cgggctgcag  
 540  
 gagcaggcca cactcaagcc actggac  
 567

<210> 3194

<211> 116

<212> PRT

<213> Homo sapiens

<400> 3194

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gln | Ile | Gln | Pro | Ser | Ala | Glu | Ser | Ala | Val | His | Ala | Leu | His | Ala |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Lys | Cys | Pro | Ala | Pro | Gly | Ser | Lys | Ser | Val | Phe | Ile | Gln | Thr | Trp | Val |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Asn | Tyr | Cys | Leu | Pro | Tyr | Val | Val | Pro | Val | Gly | Thr | Pro | Gly | Ala | Ala |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Gly | Leu | Val | Ile | Pro | Leu | Phe | Pro | Cys | Arg | Pro | Arg | Phe | Thr | Tyr | Phe |
|     | 50  |     |     |     | 55  |     |     | 60  |     |     |     |     |     |     |     |
| Pro | Phe | Ser | Leu | Gly | His | Arg | Ser | Cys | Ile | Gly | Gln | Gln | Phe | Ala | Gln |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |     |
| Met | Glu | Val | Lys | Val | Val | Met | Ala | Lys | Leu | Leu | Gln | Arg | Leu | Glu | Phe |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Arg | Leu | Val | Pro | Gly | Gln | Arg | Phe | Gly | Leu | Gln | Glu | Gln | Ala | Thr | Leu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Lys | Pro | Leu | Asp |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     | 115 |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 3195

<211> 987

<212> DNA

<213> Homo sapiens

<400> 3195

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 120  
 agccccagac acctacctcc ttggctggat cagccaaagg tgggcaagac ggttcacagc  
 180  
 gttcaagcat ccactttgaa acggaagagg ctaaccgttc ctttctctcg gggatcaaga  
 240  
 ccattttgaa gaagagcccg gagcccaagg aggatcccgc tcacctgtct gactcgtcct  
 300  
 catcctccgg ctccatcgtg tccttcaaaa gtgctgacag catcaaaagt cgaccaggaa  
 360  
 tcccacgact tgcggggtgac ggtggcgagc gaacgtcccc cgagcggaga gagccaggga  
 420  
 cggggaggaa agacgacgat gttgcgagca taatgaagaa atacctccag aagtaggaac  
 480

cagttcagcc tccttgaagc tgcccttgaa gacttcccga ctctacaata acttggagac  
 540  
 agagagactg gccaggcctc cccggtggcc agagccagcc agcatggcca ccctcaagag  
 600  
 gcgagatgag cccacagagg catatcctgc ggggatgctg ggctcccagt gtggttggcc  
 660  
 tgaacaaaat aaagtgttga ctctggggca tctgtgcctt ctctatggcc ttgctacctg  
 720  
 ggattccaga gagttgatgg ggtgcagata ggggtaggac tgttagaata gaaccaaccc  
 780  
 aaactgtgtg tagtttgggg tgtatacttc tattttctctt cctacatgtc tacatgccat  
 840  
 gaccttcttc ctctcttcca cttggccagt ttcagctcac ttctccagg aagtctttcc  
 900  
 tgatatatca aactgaaaca aatgctcttc ctccatgctc ccttaatccc catgcttgtc  
 960  
 gattatatcc ctttgccaat tcatttc  
 987

<210> 3196

<211> 153

<212> PRT

<213> Homo sapiens

<400> 3196

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Glu | Pro | Leu | Gly | Ser | Asp | Pro | Phe | Ser | Trp | Lys | Leu | Pro | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Asp | Tyr | Glu | Arg | Lys | Thr | Lys | Val | Asp | Phe | Asp | Asp | Phe | Leu | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Ile | Arg | Lys | Pro | Gln | Thr | Pro | Thr | Ser | Leu | Ala | Gly | Ser | Ala | Lys |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly | Gly | Gln | Asp | Gly | Ser | Gln | Arg | Ser | Ser | Ile | His | Phe | Glu | Thr | Glu |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Glu | Ala | Asn | Arg | Ser | Phe | Leu | Ser | Gly | Ile | Lys | Thr | Ile | Leu | Lys | Lys |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Ser | Pro | Glu | Pro | Lys | Glu | Asp | Pro | Ala | His | Leu | Ser | Asp | Ser | Ser | Ser |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Ser | Ser | Gly | Ser | Ile | Val | Ser | Phe | Lys | Ser | Ala | Asp | Ser | Ile | Lys | Ser |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Arg | Pro | Gly | Ile | Pro | Arg | Leu | Ala | Gly | Asp | Gly | Gly | Glu | Arg | Thr | Ser |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Pro | Glu | Arg | Arg | Glu | Pro | Gly | Thr | Gly | Arg | Lys | Asp | Asp | Asp | Val | Ala |
|     | 130 |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |     |
| Ser | Ile | Met | Lys | Lys | Tyr | Leu | Gln | Lys |     |     |     |     |     |     |     |
| 145 |     |     |     |     | 150 |     |     |     |     |     |     |     |     |     |     |

<210> 3197

<211> 5575

<212> DNA

<213> Homo sapiens

<400> 3197

nnacttgaac ccaggagggtg gaggttgcag tgagoggaga ttgtgccact gcacttggac  
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ctggctgaca cagcaagact atgtttaaaa aaaaagagag agaaaaaaaa acaagaagga  
 120  
 agagcaatgg cgacactgga tcgcaaagtg cccagtccgg aggcgtttct gggcaaacc  
 180  
 tggtcctcct ggatcgacgc cgccaaatta cactgctcgc acaatgtaga tttagaagag  
 240  
 gctggaaaag aggggtggaaa aagcaggagg gttatgaggc ttaataaaga agatatgcac  
 300  
 ttatttggcc attaccacgc acatgacgac ttctatctcg tagtgtgcag tgcctgtaac  
 360  
 caggctcgta agccacaggt tttccagtcg cactgcgaga gaagacacgg ttcaatgtgt  
 420  
 agaccttctc cctctccagt gtctccagcc tccaatcca ggacatcact agtacagggtg  
 480  
 aaaacaaaag cctgtctcag cggccatcac tctgccagca gcacctcaaa gccattcaaa  
 540  
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| Lys | Pro | Trp | Ser | Ser | Trp | Ile | Asp | Ala | Ala | Lys | Leu | His | Cys | Ser | Asp |
|     |     |     | 20  |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Asn | Val | Asp | Leu | Glu | Glu | Ala | Gly | Lys | Glu | Gly | Gly | Lys | Ser | Arg | Glu |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Val | Met | Arg | Leu | Asn | Lys | Glu | Asp | Met | His | Leu | Phe | Gly | His | Tyr | Pro |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Ala | His | Asp | Asp | Phe | Tyr | Leu | Val | Val | Cys | Ser | Ala | Cys | Asn | Gln | Val |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Val | Lys | Pro | Gln | Val | Phe | Gln | Ser | His | Cys | Glu | Arg | Arg | His | Gly | Ser |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Met | Cys | Arg | Pro | Ser | Pro | Ser | Pro | Val | Ser | Pro | Ala | Ser | Asn | Pro | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Thr | Ser | Leu | Val | Gln | Val | Lys | Thr | Lys | Ala | Cys | Leu | Ser | Gly | His | His |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Ser | Ala | Ser | Ser | Thr | Ser | Lys | Pro | Phe | Lys | Thr | Pro | Lys | Asp | Asn | Leu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Leu | Thr | Ser | Ser | Ser | Lys | Gln | His | Thr | Val | Phe | Pro | Ala | Lys | Gly | Ser |
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| Arg | Asp | Lys | Pro | Cys | Val | Pro | Val | Pro | Val | Val | Ser | Leu | Glu | Lys | Ile |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Pro | Asn | Leu | Val | Lys | Ala | Asp | Gly | Ala | Asn | Val | Lys | Met | Asn | Ser | Thr |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Thr | Thr | Thr | Ala | Val | Ser | Ala | Ser | Pro | Thr | Ser | Ser | Ser | Ala | Val | Ser |

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| Asp | Lys | Lys | His | Gln | Asn | Gly | Thr | Lys | Asn | Ser | Asn | Lys | Pro | Tyr | Arg |  |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |
| Arg | Leu | Ser | Glu | Arg | Glu | Phe | Asp | Pro | Asn | Lys | His | Cys | Gly | Val | Leu |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     | 270 |     |     |     |  |
| Asp | Pro | Glu | Thr | Lys | Lys | Pro | Cys | Thr | Arg | Ser | Leu | Thr | Cys | Lys | Thr |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |
| His | Ser | Leu | Ser | His | Arg | Arg | Ala | Val | Pro | Gly | Arg | Lys | Lys | Gln | Phe |  |
|     | 290 |     |     |     |     | 295 |     |     |     | 300 |     |     |     |     |     |  |
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| Gln | Ser | Gly | Pro | Ala | Gln | Asp | Ser | Leu | Leu | Gly | Ser | Ser | Gly | Ser | Ser |  |
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|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |
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| Gly | Gly | Asp | Leu | Ala | Ser | Arg | Leu | Ser | Ser | Asp | Glu | Gly | Glu | Met | Asp |  |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |  |
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|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |
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| Asn | Ser | Met | Val | Glu | Lys | His | Leu | Asn | Ser | Gln | Met | Trp | Lys | Lys | Ile |  |
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| Pro | Pro | Ala | Ala | Asp | Ser | Pro | Met | Pro | Ser | Pro | Ala | Ala | His | Ile | Thr |  |
|     |     |     |     | 485 |     |     |     |     |     | 490 |     |     |     | 495 |     |  |
| Thr | Pro | Val | Pro | Ala | Ser | Val | Leu | Gln | Pro | Phe | Ser | Asn | Pro | Ser | Ala |  |
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| Val | Tyr | Leu | Pro | Ser | Ala | Pro | Ile | Ser | Ser | Arg | Leu | Thr | Ser | Ser | Tyr |  |
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 Val Gly Ala Val Gly Gly Ser Ser Asp Ser Cys Pro Leu Ser Val Pro  
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| Gly | Thr | Glu | Val | Ser | Ser | Cys |
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| Val | Ala | Glu | Gly | Pro | Gly | Gly |
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&lt;213&gt; Homo sapiens

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960

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<210> 3204

<211> 424

<212> PRT

<213> Homo sapiens

<400> 3204

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Pro | Glu | Glu | Asp | Ala | Gly | Gly | Glu | Ala | Leu | Gly | Gly | Ser | Phe |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Trp | Glu | Ala | Gly | Asn | Tyr | Arg | Arg | Thr | Val | Gln | Arg | Val | Glu | Asp | Gly |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| His | Arg | Leu | Cys | Gly | Asp | Leu | Val | Ser | Cys | Phe | Gln | Glu | Arg | Ala | Arg |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ile | Glu | Lys | Ala | Tyr | Ala | Gln | Leu | Ala | Asp | Trp | Ala | Arg | Lys | Trp |     |
|     |     | 50  |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Arg | Gly | Thr | Val | Glu | Lys | Gly | Pro | Gln | Tyr | Gly | Thr | Leu | Glu | Lys | Ala |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Trp | His | Ala | Phe | Phe | Thr | Ala | Ala | Glu | Arg | Leu | Ser | Ala | Leu | His | Leu |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Glu | Val | Arg | Glu | Lys | Leu | Gln | Gly | Gln | Asp | Ser | Glu | Arg | Val | Arg | Ala |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Trp | Gln | Arg | Gly | Ala | Phe | His | Arg | Pro | Val | Leu | Gly | Gly | Phe | Arg | Glu |

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<210> 3205
<211> 1482
<212> DNA
<213> Homo sapiens
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2416

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 780  
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<210> 3206

<211> 494

<212> PRT

<213> Homo sapiens

<400> 3206

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Glu | Met | Glu | Gly | Thr | Ser | Pro | Ser | Ser | Pro | Pro | Pro | Ser | Gly | Val |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Arg | Ser | Pro | Pro | Gly | Leu | Ala | Lys | Thr | Pro | Leu | Ser | Ala | Leu | Gly | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Lys | Pro | His | Asn | Pro | Ala | Asp | Ile | Leu | Leu | His | Pro | Thr | Gly | Glu | Pro |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Arg | Ser | Tyr | Val | Glu | Ser | Val | Ala | Arg | Thr | Ala | Val | Ala | Gly | Pro | Arg |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ala | Gln | Asp | Ser | Glu | Pro | Lys | Ser | Phe | Ser | Ala | Pro | Ala | Thr | Gln | Ala |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Tyr | Gly | His | Glu | Ile | Pro | Leu | Arg | Asn | Gly | Thr | Leu | Gly | Gly | Ser | Phe |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Val | Ser | Pro | Ser | Pro | Leu | Ser | Thr | Ser | Ser | Pro | Ile | Leu | Ser | Ala | Asp |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ser | Thr | Ser | Val | Gly | Ser | Phe | Pro | Ser | Gly | Glu | Ser | Ser | Asp | Gln | Gly |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Pro | Arg | Thr | Pro | Thr | Gln | Pro | Leu | Leu | Glu | Ser | Gly | Phe | Arg | Ser | Gly |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ser | Leu | Gly | Gln | Pro | Ser | Pro | Ser | Ala | Gln | Arg | Asn | Tyr | Gln | Ser | Ser |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Ser | Pro | Leu | Pro | Thr | Val | Gly | Ser | Ser | Tyr | Ser | Ser | Pro | Asp | Tyr | Ser |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Leu | Gln | His | Phe | Ser | Ser | Ser | Pro | Glu | Ser | Gln | Ala | Arg | Ala | Gln | Phe |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ser | Val | Ala | Gly | Val | His | Thr | Val | Pro | Gly | Ser | Pro | Gln | Ala | Arg | His |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Arg | Thr | Val | Gly | Thr | Asn | Thr | Pro | Pro | Ser | Pro | Gly | Phe | Gly | Trp | Arg |
|     |     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ala | Ile | Asn | Pro | Ser | Met | Ala | Ala | Pro | Ser | Ser | Pro | Ser | Leu | Ser | His |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| His | Gln | Met | Met | Gly | Pro | Pro | Gly | Thr | Gly | Phe | His | Gly | Ser | Thr | Val |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Ser | Ser | Pro | Gln | Ser | Ser | Ala | Ala | Thr | Thr | Pro | Gly | Ser | Pro | Ser | Leu |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Cys | Arg | His | Pro | Ala | Gly | Val | Tyr | Gln | Val | Ser | Gly | Leu | His | Asn | Lys |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Val | Ala | Thr | Thr | Pro | Gly | Ser | Pro | Ser | Leu | Gly | Arg | His | Pro | Gly | Ala |
|     |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| His | Gln | Gly | Asn | Leu | Ala | Ser | Gly | Leu | His | Ser | Asn | Ala | Ile | Ala | Ser |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |     |
| Pro | Gly | Ser | Pro | Ser | Leu | Gly | Arg | His | Leu | Gly | Gly | Ser | Gly | Ser | Val |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Val | Pro | Gly | Ser | Pro | Cys | Leu | Asp | Arg | His | Val | Ala | Tyr | Gly | Gly | Tyr |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Ser | Thr | Pro | Glu | Asp | Arg | Arg | Pro | Thr | Leu | Ser | Arg | Gln | Ser | Ser | Ala |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Ser | Gly | Tyr | Gln | Ala | Pro | Ser | Thr | Pro | Ser | Phe | Pro | Val | Ser | Pro | Ala |
|     |     | 370 |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Tyr | Tyr | Pro | Gly | Leu | Ser | Ser | Pro | Ala | Thr | Ser | Pro | Ser | Pro | Asp | Ser |
| 385 |     |     |     |     | 390 |     |     |     |     |     | 395 |     |     | 400 |     |
| Ala | Ala | Phe |     |     |     |     |     |     |     |     |     |     |     |     |     |

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465              470              475              480
Phe Val Gln Asp Thr Ser Lys Tyr Trp Tyr Lys Pro Lys Ile
              485              490

<210> 3207
<211> 495
<212> DNA
<213> Homo sapiens

<400> 3207
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120
ctgtcgcgca agctgcataa gatcctggag acgcggctgg acaacgacaa ggagatgtta
180
gaagctctca aggcactttc aacctttttt gttgaaaata gtctgcggac tcgaagaaat
240
ttacgtggag atattgaacg taaaagttaa gccatcaatg aagaatttgt aagcattttc
300
aaggaagtga aggaggaact tgaaagcata agcgaagatg ttcaagcaat gagcaactgt
360
tgtcaagata tgacaagtcg cctacaggca gcaaaggaac agactcaaga tttaatagta
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480
gcctttttat ccaag
495

<210> 3208
<211> 107
<212> PRT
<213> Homo sapiens

<400> 3208
Met Leu Glu Ala Leu Lys Ala Leu Ser Thr Phe Phe Val Glu Asn Ser
1      5      10      15
Leu Arg Thr Arg Arg Asn Leu Arg Gly Asp Ile Glu Arg Lys Ser Leu
20     25     30
Ala Ile Asn Glu Glu Phe Val Ser Ile Phe Lys Glu Val Lys Glu Glu
35     40     45
Leu Glu Ser Ile Ser Glu Asp Val Gln Ala Met Ser Asn Cys Cys Gln
50     55     60
Asp Met Thr Ser Arg Leu Gln Ala Ala Lys Glu Gln Thr Gln Asp Leu
65     70     75     80
Ile Val Asn Thr Thr Lys Leu Gln Ser Glu Ser Gln Lys Leu Glu Ile
85     90     95
Arg Ala Gln Val Ala Asp Ala Phe Leu Ser Lys
100    105

<210> 3209
<211> 346
<212> DNA
<213> Homo sapiens

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&lt;400&gt; 3209

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120  
gaagaatcag cccacacagtg caggggtgtg ttagtgggga acgggctctg ggctcctgtg  
180  
ggaaccaggg accccctatc ttggtaccgg tcattggatg tatccccagc tcatgctgtg  
240  
gtctgtcttg gcccggtgtg tcacctgtg ttcattctctc tcccagccat ggctctctca  
300  
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346

&lt;210&gt; 3210

&lt;211&gt; 95

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3210

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Arg | Pro | Ala | Leu | Ser | Leu | Leu | Thr | Trp | Ala | Leu | Pro | Thr | Gly | Lys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Cys | Ser | His | Ser | Arg | Arg | Ile | Ser | Pro | Thr | Val | Gln | Gly | Cys | Val | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Glu | Arg | Ala | Leu | Gly | Ser | Cys | Gly | Asn | Gln | Gly | Pro | Pro | Ile | Leu |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Val | Pro | Val | Ile | Gly | Cys | Ile | Pro | Ser | Ser | Cys | Leu | Cys | Leu | Ser | Trp |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Pro | Val | Trp | Ser | Pro | Cys | Val | His | Leu | Ser | Pro | Ser | His | Gly | Leu | Ser |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Asn | Trp | Gly | Phe | Arg | Leu | Pro | Met | Arg | Gly | Ser | Trp | Tyr | Val | Arg |     |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |

&lt;210&gt; 3211

&lt;211&gt; 1728

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3211

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60  
tggacaaaag attccaagtc gatagcccag gccaaagaaa gcgcagggga caactccagt  
120  
gtttccttgg ccatcgtgca agccagtccg aaggaccagg gactctatta ctgctgcac  
180  
aagaacagct acggaaaagt gactgctgaa tttaacctca cagctgaagt tctcaaacag  
240  
ctgtcaagtc acacagaata cttaaaggatg tgaagagatt gaattcagcc aactcatctt  
300  
caaagaagac ttctccatg acagctactt tgggggcccgc ctgctgggtc agatcgccac  
360  
ggaggagctg cactttggag aaggggttca ccgcaaagcc ttccgcagca cagtgtatgca  
420

cggcctcatg cctgtcttca aacctggcca tgccctgtgtg cttaagggtgc acaatgccat  
 480  
 tgcctatggg accagaaata atgatgagct catccaaagg aactacaaac tcgctgcccc  
 540  
 ggaatgctat gttcaaaata ctgccaggta ttatgccaaag atctacgctg ctgaagcaca  
 600  
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 660  
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 720  
 tccatcagg gatgggaaag aaataaactt cttgagaaga gaatcagaag ctggtcagaa  
 780  
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 840  
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 900  
 caagggattt aaaggcaact gttccatgac ctteattgat cagtttaaag cactacacca  
 960  
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 1080  
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 1140  
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 1200  
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 1260  
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 1380  
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 1560  
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 1620  
 gaagccattt cccatcattc aacagccagt tacaattttc tgtttaatta aattcatatt  
 1680  
 taacacaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 1728

&lt;210&gt; 3212

&lt;211&gt; 87

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3212

Ser Gly Asn Ile Lys Leu Ser Tyr Gln Phe Ser Glu Ile His Glu Asp  
 1 5 10 15  
 Ser Thr Val Cys Trp Thr Lys Asp Ser Lys Ser Ile Ala Gln Ala Lys

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                20                25                30
Lys Ser Ala Gly Asp Asn Ser Ser Val Ser Leu Ala Ile Val Gln Ala
      35                40                45
Ser Pro Lys Asp Gln Gly Leu Tyr Tyr Cys Cys Ile Lys Asn Ser Tyr
      50                55                60
Gly Lys Val Thr Ala Glu Phe Asn Leu Thr Ala Glu Val Leu Lys Gln
65                70                75                80
Leu Ser Ser His Thr Glu Tyr
                85

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<210> 3213  
 <211> 348  
 <212> DNA  
 <213> Homo sapiens

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<400> 3213
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120
gataaacatg cccaactcat cttggcccaa atcaataaga tgagaaatgg acagcatttc
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240
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348

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<210> 3214  
 <211> 92  
 <212> PRT  
 <213> Homo sapiens

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<400> 3214
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      20                25                30
Gly Gln His Phe Cys Asp Val Gln Leu Gln Val Gly Gln Glu Ser Phe
      35                40                45
Lys Ala His Arg Leu Val Leu Ala Ala Ser Ser Pro Tyr Phe Ala Ala
      50                55                60
Leu Phe Thr Gly Gly Met Lys Glu Ser Ser Lys Asp Val Val Pro Ile
65                70                75                80
Leu Gly Ile Glu Ala Gly Ile Phe Gln Ile Leu Leu
                85                90

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<210> 3215  
 <211> 597  
 <212> DNA  
 <213> Homo sapiens

<400> 3215

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 180  
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 360  
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 420  
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 480  
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<210> 3216

<211> 153

<212> PRT

<213> Homo sapiens

<400> 3216

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
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| Thr | Arg | Ala | Arg | Ser | Arg | Gln | Glu | Arg | Ala | Ser | Arg | Pro | Arg | Leu | Thr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ile | Leu | Asn | Val | Cys | Asn | Thr | Gly | Asp | Lys | Met | Val | Glu | Cys | Gln | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Thr | His | Asn | His | Lys | Met | Val | Thr | Phe | Lys | Phe | Asp | Leu | Asp | Gly |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asp | Ala | Pro | Asp | Glu | Ile | Ala | Thr | Tyr | Met | Val | Glu | His | Asp | Phe | Ile |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Gln | Ala | Glu | Arg | Glu | Thr | Phe | Ile | Glu | Gln | Met | Lys | Asp | Val | Met |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Asp | Lys | Ala | Glu | Asp | Met | Leu | Ser | Glu | Asp | Thr | Asp | Ala | Asp | Arg | Gly |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Ser | Asp | Pro | Gly | Thr | Ser | Pro | Pro | His | Leu | Ser | Thr | Cys | Gly | Leu | Gly |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Thr | Gly | Glu | Glu | Ser | Arg | Gln | Ser | Gln | Ala | Asn | Ala | Pro | Val | Tyr | Gln |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Gln | Asn | Val | Leu | His | Thr | Gly | Lys | Arg | Trp | Phe | Ile | Ile | Cys | Pro | Val |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Pro | Glu | Pro | Pro | Ala | Pro | Glu | Gly | Pro |     |     |     |     |     |     |     |
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<213> Homo sapiens

<400> 3217

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180  
gatgtggggc cagaaaacaa gccagtcagt gttcaagaga cctatgaagc caaaagacat  
240  
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300  
gtaaaggaga aagaagccat attgaaagaa gctgagagag agctacaggc caaatttgag  
360  
caccttaaga gacttcacca agaagagaga atgaagcttg aagaacaaag aagacttttg  
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480  
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660  
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720  
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780  
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960  
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1560  
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1620

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<210> 3218

<211> 181

<212> PRT

<213> Homo sapiens

<400> 3218

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| Gly | Val | Lys | Ala | Arg | Gln | Tyr | Pro | Trp | Gly | Val | Val | Gln | Val | Glu | Asn |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Glu | Asn | His | Cys | Asp | Phe | Val | Lys | Leu | Arg | Glu | Met | Leu | Ile | Cys | Thr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asn | Met | Glu | Asp | Leu | Arg | Glu | Gln | Thr | His | Thr | Arg | His | Tyr | Glu | Leu |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Tyr | Arg | Arg | Cys | Lys | Leu | Glu | Met | Gly | Phe | Thr | Asp | Val | Gly | Pro |     |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Glu | Asn | Lys | Pro | Val | Ser | Val | Gln | Glu | Thr | Tyr | Glu | Ala | Lys | Arg | His |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |     |
| Glu | Phe | His | Gly | Glu | Arg | Gln | Arg | Lys | Glu | Glu | Glu | Met | Lys | Gln | Met |
|     |     |     | 85  |     |     |     | 90  |     |     |     |     |     |     | 95  |     |
| Phe | Val | Gln | Arg | Val | Lys | Glu | Lys | Glu | Ala | Ile | Leu | Lys | Glu | Ala | Glu |
|     |     |     | 100 |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Arg | Glu | Leu | Gln | Ala | Lys | Phe | Glu | His | Leu | Lys | Arg | Leu | His | Gln | Glu |

[illegible]

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<212> DNA
<213> Homo sapiens
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1140

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 1241

<210> 3220

<211> 413

<212> PRT

<213> Homo sapiens

<400> 3220

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Arg | His | Val | Pro | His | Pro | Ala | Pro | Gln | Val | Pro | Pro | Ser | Arg | Gly |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Leu | Gly | Cys | Ala | Ser | Ser | Gly | Arg | His | Val | Val | Pro | Ala | Gln | Val | His |
|     |     |     | 20  |     |     |     | 25  |     |     |     |     |     | 30  |     |     |
| Val | Asn | Gly | Gly | Xaa | Val | Thr | Ser | Glu | Arg | Glu | Thr | Asp | Ile | Leu | Asp |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asp | Glu | Leu | Pro | Asn | Gln | Asp | Gly | His | Ser | Ala | Gly | Ser | Met | Gly | Thr |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Ser | Ser | Leu | Asp | Gly | Val | Thr | Asn | Ile | Ser | Glu | Gly | Gly | Tyr | Pro |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Glu | Ala | Leu | Ser | Pro | Leu | Thr | Asn | Gly | Leu | Asp | Lys | Ser | Tyr | Pro | Met |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Glu | Pro | Met | Val | Asn | Gly | Gly | Gly | Tyr | Pro | Tyr | Glu | Ser | Ala | Ser | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |
| Ala | Gly | Pro | Ala | His | Ala | Gly | His | Thr | Ala | Pro | Met | Arg | Pro | Ser | Tyr |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ser | Ala | Gln | Glu | Gly | Leu | Ala | Gly | Tyr | Gln | Arg | Glu | Gly | Pro | His | Pro |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ala | Trp | Pro | Gln | Pro | Val | Thr | Thr | Ser | His | Tyr | Ala | His | Asp | Pro | Ser |
| 145 |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     | 160 |     |
| Gly | Met | Phe | Arg | Ser | Gln | Ser | Phe | Ser | Glu | Ala | Glu | Pro | Gln | Leu | Pro |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Pro | Ala | Pro | Val | Arg | Gly | Gly | Ser | Ser | Arg | Glu | Ala | Val | Gln | Arg | Gly |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Leu | Asn | Ser | Trp | Gln | Gln | Gln | Gln | Gln | Gln | Gln | Gln | Gln | Pro | Arg | Pro |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Pro | Pro | Arg | Gln | Gln | Glu | Arg | Ala | His | Leu | Glu | Ser | Leu | Val | Ala | Ser |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Arg | Pro | Ser | Pro | Gln | Pro | Leu | Ala | Glu | Thr | Pro | Ile | Pro | Ser | Leu | Pro |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     | 240 |     |
| Glu | Phe | Pro | Arg | Ala | Ala | Ser | Gln | Gln | Glu | Ile | Glu | Gln | Ser | Ile | Glu |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Thr | Leu | Asn | Met | Leu | Met | Leu | Asp | Leu | Glu | Pro | Ala | Ser | Ala | Ala | Ala |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |
| Pro | Leu | His | Lys | Ser | Gln | Ser | Val | Pro | Gly | Ala | Trp | Pro | Gly | Ala | Ser |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Pro | Leu | Ser | Ser | Gln | Pro | Leu | Ser | Gly | Ser | Ser | Arg | Gln | Ser | His | Pro |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Leu | Thr | Gln | Ser | Arg | Ser | Gly | Tyr | Ile | Pro | Ser | Gly | His | Ser | Leu | Gly |
| 305 |     |     |     | 310 |     |     |     |     |     | 315 |     |     |     | 320 |     |
| Thr | Pro | Glu | Pro | Ala | Pro | Arg | Ala | Ser | Leu | Glu | Ser | Val | Pro | Pro | Gly |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Arg | Ser | Tyr | Ser | Pro | Tyr | Asp | Tyr | Gln | Pro | Cys | Leu | Ala | Gly | Pro | Asn |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 340 |     | 345 |     | 350 |     |     |     |     |     |     |     |     |     |     |
| Gln | Asp | Phe | His | Ser | Lys | Ser | Pro | Ala | Ser | Ser | Ser | Leu | Pro | Ala | Phe |
|     | 355 |     |     |     |     | 360 |     |     |     |     |     | 365 |     |     |     |
| Leu | Pro | Thr | Thr | His | Ser | Pro | Pro | Gly | Pro | Gln | Gln | Pro | Pro | Ala | Ser |
|     | 370 |     |     |     |     | 375 |     |     |     |     |     | 380 |     |     |     |
| Leu | Pro | Gly | Leu | Thr | Ala | Gln | Pro | Leu | Leu | Ser | Pro | Lys | Glu | Ala | Thr |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Ser | Asp | Pro | Ser | Arg | Thr | Pro | Glu | Glu | Glu | Pro | Leu | Asn |     |     |     |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     |     |     |

&lt;210&gt; 3221

&lt;211&gt; 1585

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3221

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1140

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<210> 3222

<211> 331

<212> PRT

<213> Homo sapiens

<400> 3222

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| Leu | Leu | Ala | Val | Leu | Arg | Pro | Arg | Arg | Ser | Arg | Lys | Arg | His | Val | Gln |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Trp | Val | Glu | Glu | Pro | Gln | Arg | Ser | Cys | Thr | Ala | Arg | Arg | Trp | His | Ile |
|     |     |     |     | 20  |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gln | Ala | Thr | Gly | Gly | Val | Glu | Pro | Ala | Gly | Trp | Lys | Glu | Met | Arg | Cys |
|     |     |     |     | 35  |     |     |     | 40  |     |     |     | 45  |     |     |     |
| His | Leu | Arg | Ala | Asn | Gly | Tyr | Leu | Cys | Lys | Tyr | Gln | Phe | Glu | Val | Leu |
|     |     |     |     | 50  |     |     |     | 55  |     |     | 60  |     |     |     |     |
| Cys | Pro | Ala | Pro | Arg | Pro | Gly | Ala | Ala | Ser | Asn | Leu | Ser | Tyr | Arg | Ala |
|     |     |     |     |     |     |     |     | 70  |     |     | 75  |     |     |     | 80  |
| Pro | Phe | Gln | Leu | His | Ser | Ala | Ala | Leu | Asp | Phe | Ser | Pro | Pro | Gly | Thr |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Glu | Val | Ser | Ala | Leu | Cys | Arg | Gly | Gln | Leu | Pro | Ile | Ser | Val | Thr | Cys |
|     |     |     |     | 100 |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ile | Ala | Asp | Glu | Ile | Gly | Ala | Arg | Trp | Asp | Lys | Leu | Ser | Gly | Asp | Val |
|     |     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |
| Leu | Cys | Pro | Cys | Pro | Gly | Arg | Tyr | Leu | Arg | Ala | Gly | Lys | Cys | Ala | Glu |
|     |     |     |     |     |     |     |     | 130 |     |     |     | 140 |     |     |     |
| Leu | Pro | Asn | Cys | Leu | Asp | Asp | Leu | Gly | Gly | Phe | Ala | Cys | Glu | Cys | Ala |
|     |     |     |     |     |     |     |     | 145 |     |     | 155 |     |     | 160 |     |
| Thr | Gly | Phe | Glu | Leu | Gly | Lys | Asp | Gly | Arg | Ser | Cys | Val | Thr | Ser | Gly |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Glu | Gly | Gln | Pro | Thr | Leu | Gly | Gly | Thr | Gly | Val | Pro | Thr | Arg | Arg | Pro |
|     |     |     |     | 180 |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Pro | Ala | Thr | Ala | Thr | Ser | Pro | Val | Pro | Gln | Arg | Thr | Trp | Pro | Ile | Arg |
|     |     |     |     | 195 |     |     |     | 200 |     |     |     | 205 |     |     |     |
| Val | Asp | Glu | Lys | Leu | Gly | Glu | Thr | Pro | Leu | Val | Pro | Glu | Gln | Asp | Asn |
|     |     |     |     | 210 |     |     |     | 215 |     |     |     | 220 |     |     |     |
| Ser | Val | Thr | Ser | Ile | Pro | Glu | Ile | Pro | Arg | Trp | Gly | Ser | Gln | Ser | Thr |
|     |     |     |     |     |     |     |     | 225 |     |     |     |     |     | 240 |     |
| Met | Ser | Thr | Leu | Gln | Met | Ser | Leu | Gln | Ala | Glu | Ser | Lys | Ala | Thr | Ile |

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<210> 3223
<211> 985
<212> DNA
<213> Homo sapiens
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<210> 3224

<211> 224  
 <212> PRT  
 <213> Homo sapiens

<400> 3224

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Ser Asn Pro Asp Ser Leu Ile Phe Gly Ala Leu Thr Ile Met Thr Gly
      20           25           30
Val Ile Gly Val Ile Leu Gly Ala Glu Ala Ser Arg Arg Tyr Lys Lys
      35           40           45
Val Ile Pro Gly Ala Glu Pro Leu Ile Cys Ala Ser Ser Leu Leu Ala
      50           55           60
Thr Ala Pro Cys Leu Tyr Leu Ala Leu Val Leu Ala Pro Thr Thr Leu
      65           70           75           80
Leu Ala Ser Tyr Val Phe Leu Gly Leu Gly Glu Leu Leu Leu Ser Cys
      85           90           95
Asn Trp Ala Val Val Ala Asp Ile Leu Leu Ser Val Val Val Pro Arg
      100          105          110
Cys Arg Gly Thr Ala Glu Ala Leu Gln Ile Thr Val Gly His Ile Leu
      115          120          125
Gly Asp Ala Gly Ser Pro Tyr Leu Thr Gly Leu Ile Ser Ser Val Leu
      130          135          140
Arg Pro Gly Ala Leu Thr Pro Leu Gln Arg Phe Arg Ser Leu Gln Gln
      145          150          155          160
Ser Phe Leu Cys Cys Ala Phe Val Ile Ala Leu Gly Gly Gly Cys Phe
      165          170          175
Leu Leu Thr Ala Leu Tyr Leu Glu Arg Asp Glu Thr Arg Ala Trp Gln
      180          185          190
Pro Val Thr Gly Thr Pro Asp Ser Asn Asp Val Asp Ser Asn Asp Leu
      195          200          205
Glu Arg Gln Gly Leu Leu Ser Gly Ala Gly Ala Ser Thr Glu Glu Pro
      210          215          220

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<210> 3225  
 <211> 506  
 <212> DNA  
 <213> Homo sapiens

<400> 3225

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120
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180
attctgcctg tttcccagtc cctaaaatgc ctgtgccatg tgccctgggt gaagaactag
240
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300
aagtggaacc acagcctcaa cccacacaga ggatggaacc accttctgca gctaaaaata
360
accacaccgc ctttgaggtg agccacccaa gatgcaggtg gggctgtatg aaactccacg
420

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<210> 3226

<211> 137

<212> PRT

<213> Homo sapiens

<400> 3226

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Val | Ile | Phe | Pro | Lys | Leu | Lys | Gln | Arg | Asn | Ile | Leu | Asn | Gly |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Leu | Arg | Pro | Cys | Thr | Phe | Phe | Ile | Gln | Glu | Ala | Thr | Lys | Asn | Ser | Ala |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Cys | Phe | Pro | Val | Pro | Lys | Met | Pro | Val | Pro | Cys | Ala | Leu | Gly | Glu | Glu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu | Val | Pro | Cys | His | Arg | Gly | Thr | Gly | Pro | Ala | Val | Val | Trp | Pro | Ala |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gln | Pro | Gln | Gln | Gly | Glu | Val | Glu | Pro | Gln | Pro | Gln | Pro | Thr | Gln | Arg |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Met | Glu | Pro | Pro | Ser | Ala | Ala | Lys | Asn | Asn | His | Thr | Ala | Phe | Glu | Val |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ser | His | Pro | Arg | Cys | Arg | Trp | Gly | Cys | Met | Lys | Leu | His | Glu | His | Gly |
|     |     |     | 100 |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Met | Ser | Phe | Ile | Phe | Arg | Val | Pro | Arg | Gly | His | Glu | Trp | Tyr | Gln | Asp |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Pro | Trp | Arg | Cys | Pro | Trp | Phe | Pro | Met |     |     |     |     |     |     |     |
|     | 130 |     |     |     |     |     | 135 |     |     |     |     |     |     |     |     |

<210> 3227

<211> 1623

<212> DNA

<213> Homo sapiens

<400> 3227

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 120  
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 180  
 gcattcccat cccctctccc ggggcggagg tgaggacctc cttggttctt ttggttctgt  
 240  
 cagttagccc cttccttggc catgaagctc gtgaggaaga acatcgagaa ggacaatgcg  
 300  
 ggccaggtga ccttggtccc cgaggagcct gaggacatgt ggcacactta caacctcgtg  
 360  
 caggtgggcg acagcctgcg cgcctccacc atccgcaagg tacagacaga gtctctccag  
 420  
 ggcagcgtgg gcagcaaccg ggtccgcact accctcactc tctgcgtgga ggccatcgac  
 480  
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 540

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 840  
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 1140  
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 1200  
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 1260  
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 1320  
 gaacagctca gccagttgac tggggtagct gccattctcc gcttcctgt tcccgaactt  
 1380  
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 1440  
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 1500  
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 1560  
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 1620  
 aaa  
 1623

&lt;210&gt; 3228

&lt;211&gt; 385

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3228

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Leu | Val | Arg | Lys | Asn | Ile | Glu | Lys | Asp | Asn | Ala | Gly | Gln | Val |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Thr | Leu | Val | Pro | Glu | Glu | Pro | Glu | Asp | Met | Trp | His | Thr | Tyr | Asn | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Val | Gln | Val | Gly | Asp | Ser | Leu | Arg | Ala | Ser | Thr | Ile | Arg | Lys | Val | Gln |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Thr | Glu | Ser | Ser | Thr | Gly | Ser | Val | Gly | Ser | Asn | Arg | Val | Arg | Thr | Thr |
|     |     |     | 50  |     |     |     | 55  |     |     |     | 60  |     |     |     |     |
| Leu | Thr | Leu | Cys | Val | Glu | Ala | Ile | Asp | Phe | Asp | Ser | Gln | Ala | Cys | Gln |

65                                      70                                      75                                      80  
 Leu Arg Val Lys Gly Thr Asn Ile Gln Glu Asn Glu Tyr Val Lys Met  
    85                                      90                                      95  
 Gly Ala Tyr His Thr Ile Glu Leu Glu Pro Asn Arg Gln Phe Thr Leu  
    100                                      105                                      110  
 Ala Lys Lys Gln Trp Asp Ser Val Leu Glu Arg Ile Glu Gln Ala  
    115                                      120                                      125  
 Cys Asp Pro Ala Trp Ser Ala Asp Val Ala Ala Val Val Met Gln Glu  
    130                                      135                                      140  
 Gly Leu Ala His Ile Cys Leu Val Thr Pro Ser Met Thr Leu Thr Arg  
 145                                      150                                      155                                      160  
 Ala Lys Val Glu Val Asn Ile Pro Arg Lys Arg Lys Gly Asn Cys Ser  
    165                                      170                                      175  
 Gln His Asp Arg Ala Leu Glu Arg Phe Tyr Glu Gln Val Val Gln Ala  
    180                                      185                                      190  
 Ile Gln Arg His Ile His Phe Asp Val Val Lys Cys Ile Leu Val Ala  
    195                                      200                                      205  
 Ser Pro Gly Phe Val Arg Glu Gln Phe Cys Asp Tyr Met Phe Gln Gln  
    210                                      215                                      220  
 Ala Val Lys Thr Asp Asn Lys Leu Leu Leu Glu Asn Arg Ser Lys Phe  
 225                                      230                                      235                                      240  
 Leu Gln Val His Ala Ser Ser Gly His Lys Tyr Ser Leu Lys Glu Ala  
    245                                      250                                      255  
 Leu Cys Asp Pro Thr Val Ala Ser Arg Leu Ser Asp Thr Lys Ala Ala  
    260                                      265                                      270  
 Gly Glu Val Lys Ala Leu Asp Asp Phe Tyr Lys Met Leu Gln His Glu  
    275                                      280                                      285  
 Pro Asp Arg Ala Phe Tyr Gly Leu Lys Gln Val Glu Lys Ala Asn Glu  
    290                                      295                                      300  
 Ala Met Ala Ile Asp Thr Leu Leu Ile Ser Asp Glu Leu Phe Arg His  
 305                                      310                                      315                                      320  
 Gln Asp Val Ala Thr Arg Ser Arg Tyr Val Arg Leu Val Asp Ser Val  
    325                                      330                                      335  
 Lys Glu Asn Ala Gly Thr Val Arg Ile Phe Ser Ser Leu His Val Ser  
    340                                      345                                      350  
 Gly Glu Gln Leu Ser Gln Leu Thr Gly Val Ala Ala Ile Leu Arg Phe  
    355                                      360                                      365  
 Pro Val Pro Glu Leu Ser Asp Gln Glu Gly Asp Ser Ser Ser Glu Glu  
    370                                      375                                      380  
 Asp  
 385

&lt;210&gt; 3229

&lt;211&gt; 1008

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3229

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 120  
 ggccggctaa ggtgcgcgtg ctcgctgggt ctaacccttc tggtgggcgt ttctgctgag  
 180

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 300  
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 360  
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 1008

&lt;210&gt; 3230

&lt;211&gt; 232

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3230

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Asp | Gly | Lys | Arg | Glu | Arg | Trp | Pro | Thr | Leu | Met | Glu | Arg | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Cys | Ser | Asp | Gly | Phe | Ala | Phe | Pro | Gln | Tyr | Pro | Ile | Lys | Pro | Tyr | His |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Lys | Arg | Ile | His | Arg | Ala | Val | Leu | Arg | Gly | Asn | Leu | Glu | Glu | Leu |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Lys | Tyr | Leu | Leu | Leu | Thr | Tyr | Tyr | Asp | Ile | Asn | Lys | Arg | Asp | Arg | Lys |
|     | 50  |     |     |     | 55  |     |     |     |     |     | 60  |     |     |     |     |
| Glu | Arg | Thr | Ala | Leu | His | Leu | Ala | Cys | Ala | Thr | Gly | Gln | Pro | Glu | Met |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Val | His | Leu | Leu | Val | Ser | Arg | Arg | Cys | Glu | Leu | Asn | Leu | Cys | Asp | Arg |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Glu | Asp | Arg | Thr | Pro | Leu | Ile | Lys | Ala | Val | Gln | Leu | Arg | Gln | Glu | Ala |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Cys | Ala | Thr | Leu | Leu | Leu | Gln | Asn | Gly | Ala | Asp | Pro | Asn | Ile | Thr | Asp |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Val | Phe | Gly | Arg | Thr | Ala | Leu | His | Tyr | Ala | Val | Tyr | Asn | Glu | Asp | Thr |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ser | Met | Ile | Glu | Lys | Leu | Leu | Ser | His | Gly | Thr | Asn | Ile | Glu | Glu | Cys |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 145 |     | 150 |     | 155 |     | 160 |     |     |     |     |     |     |     |     |     |
| Ser | Lys | Asn | Glu | Tyr | Gln | Pro | Leu | Leu | Leu | Ala | Val | Ser | Arg | Arg | Lys |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Val | Lys | Met | Val | Glu | Phe | Leu | Leu | Lys | Lys | Lys | Ala | Asn | Val | Asn | Ala |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ile | Asp | Tyr | Leu | Gly | Arg | Ser | Ala | Leu | Ile | Leu | Ala | Val | Thr | Leu | Gly |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Glu | Lys | Asp | Ile | Val | Ile | Leu | Leu | Leu | Gln | His | Asn | Ile | Asp | Val | Phe |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ser | Arg | Asp | Val | Tyr | Gly | Lys | Leu |     |     |     |     |     |     |     |     |
| 225 |     |     |     |     | 230 |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 3231

&lt;211&gt; 1367

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3231

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1080

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 1200  
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 1260  
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 1367

<210> 3232

<211> 251

<212> PRT

<213> Homo sapiens

<400> 3232

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Asp | Ile | Gly | Asp | Trp | Phe | Arg | Ser | Ile | Pro | Ala | Ile | Thr | Arg |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Tyr | Trp | Phe | Ala | Ala | Thr | Val | Ala | Val | Pro | Leu | Val | Gly | Lys | Leu | Gly |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Ile | Ser | Pro | Ala | Tyr | Leu | Phe | Leu | Trp | Pro | Glu | Ala | Phe | Leu | Tyr |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Arg | Phe | Gln | Ile | Trp | Arg | Pro | Ile | Thr | Ala | Thr | Phe | Tyr | Phe | Pro | Val |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gly | Pro | Gly | Thr | Gly | Phe | Leu | Tyr | Leu | Val | Asn | Leu | Tyr | Phe | Leu | Tyr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Gln | Tyr | Ser | Thr | Arg | Leu | Glu | Thr | Gly | Ala | Phe | Asp | Gly | Arg | Pro | Ala |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Asp | Tyr | Leu | Phe | Met | Leu | Leu | Phe | Asn | Trp | Ile | Cys | Ile | Val | Ile | Thr |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gly | Leu | Ala | Met | Asp | Met | Gln | Leu | Met | Ile | Pro | Leu | Ile | Met | Ser |     |
|     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Val | Leu | Tyr | Val | Trp | Ala | Gln | Leu | Asn | Arg | Asp | Met | Ile | Val | Ser | Phe |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Trp | Phe | Gly | Thr | Arg | Phe | Lys | Ala | Cys | Tyr | Leu | Pro | Trp | Val | Ile | Leu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Gly | Phe | Asn | Tyr | Ile | Ile | Gly | Gly | Ser | Val | Ile | Asn | Glu | Leu | Ile | Gly |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Asn | Leu | Val | Gly | His | Leu | Tyr | Phe | Phe | Leu | Met | Phe | Arg | Tyr | Pro | Met |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |
| Asp | Leu | Gly | Gly | Arg | Asn | Phe | Leu | Ser | Thr | Pro | Gln | Phe | Leu | Tyr | Arg |
|     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Trp | Leu | Pro | Ser | Arg | Arg | Gly | Gly | Val | Ser | Gly | Phe | Gly | Val | Pro | Pro |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ala | Ser | Met | Arg | Arg | Ala | Ala | Asp | Gln | Asn | Gly | Gly | Gly | Gly | Arg | His |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Asn | Trp | Gly | Gln | Gly | Phe | Arg | Leu | Gly | Asp | Gln |     |     |     |     |     |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     |     |     |

<210> 3233

<211> 975

<212> DNA

<213> Homo sapiens

&lt;400&gt; 3233

nacgcgtacg tgggtggagct ctgcgtgttt actatTTTTg gaaatgaaga aaatggaaag  
 60  
 accgttgttt accttgtggc ttccatctg ttctttgtta tgtttgtatg gtccatttgg  
 120  
 atgacaattt tcacatctcc cgcttcccc tccaaagagt tctactgtc caattctgaa  
 180  
 aaggaacgtt atgaaaaaga attcagccaa gaaagacaac aagaaatttt gagaagagca  
 240  
 gcaagagctt tacctatcta taccacatca gcttcaaaaa ctatcagata ttgtgaaaaa  
 300  
 tgtcagctga ttaaacctga tcggggcgcat cactgctcag cctgtgactc atgtattctt  
 360  
 aagatggatc atccctgtcc ttgggtgaat aactgtgtgg gatTTTctaa ttacaaattc  
 420  
 ttctgtctgt ttttattgta ttccctatta tattgccttt tcgtggccgc acagttttag  
 480  
 agtacttaaa aaattttgga cgaaagaacc gacccaaacc cgggccaaaa ttccacgtac  
 540  
 ttttttcttt tctttgtgtc tgcaatgttc ttcatcagcg tcctctcact ttccagctac  
 600  
 cactgtgggc tttaaacagc attgtccaca gctccgtctg cagggtcagg gcatggcctc  
 660  
 tctccgtgtt cctgtgaaga gccttcattg gaatcatccc gggacatata gcttgaatgt  
 720  
 gctgtctggc tagccctccc acaagtcggg cactctgcac aaggaatccg agagctcatc  
 780  
 aaggatcagc acggtctggg gccaggtgg ggtggaacac gcacggtcca caagcaattc  
 840  
 tgtctttctc aaggcttttt cttgtgcagt atgaaatcct tcatatttca tatgaagtat  
 900  
 gtgccttctg gggcactgag ctcaggaact ccaaaaagac cccttcgggc cggatcccg  
 960  
 cttcaaggct gcccc  
 975

&lt;210&gt; 3234

&lt;211&gt; 159

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3234

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Ala | Tyr | Val | Val | Glu | Leu | Cys | Val | Phe | Thr | Ile | Phe | Gly | Asn | Glu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     | 15  |     |     |
| Glu | Asn | Gly | Lys | Thr | Val | Val | Tyr | Leu | Val | Ala | Phe | His | Leu | Phe | Phe |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Val | Met | Phe | Val | Trp | Ser | Tyr | Trp | Met | Thr | Ile | Phe | Thr | Ser | Pro | Ala |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Ser | Pro | Ser | Lys | Glu | Phe | Tyr | Leu | Ser | Asn | Ser | Glu | Lys | Glu | Arg | Tyr |
|     |     | 50  |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Glu | Lys | Glu | Phe | Ser | Gln | Glu | Arg | Gln | Gln | Glu | Ile | Leu | Arg | Arg | Ala |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     | 80  |     |     |
| Ala | Arg | Ala | Leu | Pro | Ile | Tyr | Thr | Thr | Ser | Ala | Ser | Lys | Thr | Ile | Arg |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |  |  |
| Tyr | Cys | Glu | Lys | Cys | Gln | Leu | Ile | Lys | Pro | Asp | Arg | Ala | His | His | Cys |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Ser | Ala | Cys | Asp | Ser | Cys | Ile | Leu | Lys | Met | Asp | His | Pro | Cys | Pro | Trp |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Val | Asn | Asn | Cys | Val | Gly | Phe | Ser | Asn | Tyr | Lys | Phe | Phe | Leu | Leu | Phe |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Leu | Leu | Tyr | Ser | Leu | Leu | Tyr | Cys | Leu | Phe | Val | Ala | Ala | Gln | Phe |     |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     |     |  |  |

&lt;210&gt; 3235

&lt;211&gt; 551

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3235

```

ntggaaactg agcttcaaac atataagcat tctcgtcagg ggctagatga aatgtacaat
60
gaagccagaa ggcagcttcg agatgaatct cagttacgac aggatgtaga gaatgagcta
120
gcagtacaag ttagtatgaa gcatgagatt gaacttgcca tgaagttgct ggagaaagat
180
atccatgaga aacaagatac tctgataggc cttcgacaac aactagagga agttaaagca
240
attaacatag agatgtatca aaagttgcag ggttctgaag atggcttgaa agaaaaaat
300
gaaataattg cccgactaga agaaaaaacc aataaaatta ctgcagccat gaggcagctg
360
gaacaaagat tgcagcaagc agagaaggcg caaatggaag ctgaagatga ggatgagaaa
420
tatctacaag aatgtctcag taaatctgat agtctgcaga aacaaatctc ccaaaaggag
480
aaacagctgg tgcaactgga aactgacttg aagattgaga aggaatggag gcagactttg
540
caggaagatc t
551

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&lt;210&gt; 3236

&lt;211&gt; 183

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3236

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Xaa | Glu | Thr | Glu | Leu | Gln | Thr | Tyr | Lys | His | Ser | Arg | Gln | Gly | Leu | Asp |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |  |  |
| Glu | Met | Tyr | Asn | Glu | Ala | Arg | Arg | Gln | Leu | Arg | Asp | Glu | Ser | Gln | Leu |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |  |  |
| Arg | Gln | Asp | Val | Glu | Asn | Glu | Leu | Ala | Val | Gln | Val | Ser | Met | Lys | His |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |  |  |
| Glu | Ile | Glu | Leu | Ala | Met | Lys | Leu | Leu | Glu | Lys | Asp | Ile | His | Glu | Lys |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Gln | Asp | Thr | Leu | Ile | Gly | Leu | Arg | Gln | Gln | Leu | Glu | Glu | Val | Lys | Ala |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |  |  |
| Ile | Asn | Ile | Glu | Met | Tyr | Gln | Lys | Leu | Gln | Gly | Ser | Glu | Asp | Gly | Leu |  |  |

```

<400> 3237
nctctgggct gcgacctacc tgcgagaggg gtttgcacta aggcgctggg cgccgggctc
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120
gatgaggacc gttgggaagt acggggggac cgcaaggccc ggaagcccct ggtggagaag
180
aagcgacgcg cgcgatcaa cgagagtctt caggagttgc ggctgctgct ggccggcgcc
240
gaggtgcagg ccaagctgga gaacgccgaa gtgctggagc tgacggtgcg gcgggtccag
300
ggtgtgctgc ggggccgggc gcgcgagcgc gaggcagctgc aggcggaagc gagcgagcgc
360
ttcgctgccg gctacatcca gtgcatgcac gaggtgcaca cgttcgtgtc cacgtgccag
420
gccatcgacg ctaccgtcgc tgccgagctc ctgaaccatc tgctcgagtc catgccgctg
480
cgtgagggca gcagcttcca ggatctgctg ggggacgccc tggcgggggc acctagagcc
540
cctggacgga gtggctggcc tgccgggggc gctccgggat cccaatacc cagccccccg
600
ggtcctgggg acgacctgtg ctccgacctg gaggaggccc ctgaggctga actgagtcag
660
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720
attgcccgga gtgtctggag gccttggtga ccaatgccag ccagagtcct gcgggggttg
780
gcccggccct ccctggatct cctccctcct ccagggggtt cagatgtggt ggggtagggc
840
cctggaagtc tcccaggtct tccctccctc ctctgatgga tggcttgcag ggcagccct
900
ggtaaccagc ccagtcaggc ccagccccc tttcttaaga aacttttagg gaccctgcag
960
ctctggagtg ggtggaggga gggagctacg ggcaggagga agaattttgt agagctgcc
1020

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gcgctctccc aggttcaccc acccaggctt caccagccct gtgcgggctc tgggggcaga  
 1080  
 ggtggcagaa atggtgctgg gcactagtgt tccaggcagc cctgggctaa acaaaagctt  
 1140  
 gaacttgcca cttcagcggg gagatgagag gcagggtgcac tcagctgcac tgcccagagc  
 1200  
 tgtgatgctc tgtacatctt gttttagtca cacttgagtt tgtgtattcc attgacatca  
 1260  
 aatgtgacaa ttttactaaa taaagaattt tggagttagt tacccttgaa aaaaaagtcg  
 1320  
 acg  
 1323

<210> 3238

<211> 249

<212> PRT

<213> Homo sapiens

<400> 3238

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Leu | Gly | Cys | Asp | Leu | Pro | Arg | Arg | Gly | Val | Cys | Thr | Lys | Ala | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gly | Ala | Gly | Leu | Arg | Ala | Leu | Trp | Thr | Met | Ala | Pro | Pro | Ala | Ala | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Arg | Asp | Arg | Val | Gly | Arg | Glu | Asp | Glu | Asp | Arg | Trp | Glu | Val | Arg |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly | Asp | Arg | Lys | Ala | Arg | Lys | Pro | Leu | Val | Glu | Lys | Lys | Arg | Arg | Ala |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Arg | Ile | Asn | Glu | Ser | Leu | Gln | Glu | Leu | Arg | Leu | Leu | Leu | Ala | Gly | Ala |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Glu | Val | Gln | Ala | Lys | Leu | Glu | Asn | Ala | Glu | Val | Leu | Glu | Leu | Thr | Val |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Arg | Arg | Val | Gln | Gly | Val | Leu | Arg | Gly | Arg | Ala | Arg | Glu | Arg | Glu | Gln |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu | Gln | Ala | Glu | Ala | Ser | Glu | Arg | Phe | Ala | Ala | Gly | Tyr | Ile | Gln | Cys |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Met | His | Glu | Val | His | Thr | Phe | Val | Ser | Thr | Cys | Gln | Ala | Ile | Asp | Ala |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Thr | Val | Ala | Ala | Glu | Leu | Leu | Asn | His | Leu | Leu | Glu | Ser | Met | Pro | Leu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Arg | Glu | Gly | Ser | Ser | Phe | Gln | Asp | Leu | Leu | Gly | Asp | Ala | Leu | Ala | Gly |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Pro | Pro | Arg | Ala | Pro | Gly | Arg | Ser | Gly | Trp | Pro | Ala | Gly | Gly | Ala | Pro |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Gly | Ser | Pro | Ile | Pro | Ser | Pro | Pro | Gly | Pro | Gly | Asp | Asp | Leu | Cys | Ser |
|     |     | 195 |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Asp | Leu | Glu | Glu | Ala | Pro | Glu | Ala | Glu | Leu | Ser | Gln | Ala | Pro | Ala | Glu |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Gly | Pro | Asp | Leu | Val | Pro | Ala | Ala | Leu | Gly | Ser | Leu | Thr | Thr | Ala | Gln |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Ile | Ala | Arg | Ser | Val | Trp | Arg | Pro | Trp |     |     |     |     |     |     |     |
|     |     |     |     | 245 |     |     |     |     |     |     |     |     |     |     |     |

<210> 3239

<211> 432

<212> DNA

<213> Homo sapiens

<400> 3239

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aaaaccaaag attctcctgg agttttctct aaactgggtg ttctcctgag gagagtgaca
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120
ggtttgttcc tccttttctt cgttctgcgg gtccgaagca atgtgctaaa ggggtgctatc
180
caggaccgcg taggtctcct ttaccagttt gtgggcgcca ccccgtaacac aggcagtctg
240
aacgctgtga atctgtttcc cgtgctgcga gctgtcagcg accaggagag tcaggacggc
300
ctctaccaga agtggcagat gatgctggcc tatgcactgc acgtcctccc cttcagcgtt
360
gttgccacca tgattttcag cagtgtgtgc tactggacgc tgggcttaca tcctgaggtt
420
gcccgaattgg gt
432

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<210> 3240

<211> 144

<212> PRT

<213> Homo sapiens

<400> 3240

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Lys Thr Lys Asp Ser Pro Gly Val Phe Ser Lys Leu Gly Val Leu Leu
1           5           10           15
Arg Arg Val Thr Arg Asn Leu Val Arg Asn Lys Leu Ala Val Ile Thr
20           25           30
Arg Leu Leu Gln Asn Leu Ile Met Gly Leu Phe Leu Leu Phe Phe Val
35           40           45
Leu Arg Val Arg Ser Asn Val Leu Lys Gly Ala Ile Gln Asp Arg Val
50           55           60
Gly Leu Leu Tyr Gln Phe Val Gly Ala Thr Pro Tyr Thr Gly Met Leu
65           70           75           80
Asn Ala Val Asn Leu Phe Pro Val Leu Arg Ala Val Ser Asp Gln Glu
85           90           95
Ser Gln Asp Gly Leu Tyr Gln Lys Trp Gln Met Met Leu Ala Tyr Ala
100          105          110
Leu His Val Leu Pro Phe Ser Val Val Ala Thr Met Ile Phe Ser Ser
115          120          125
Val Cys Tyr Trp Thr Leu Gly Leu His Pro Glu Val Ala Arg Leu Gly
130          135          140

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<210> 3241

<211> 492

<212> DNA

<213> Homo sapiens

<400> 3241

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gtggaatttt tttagacaaa gtctcaaaaa acaaacaaac aaacaaaagg taagataaat
60

```

acgaaataca aaataagagg caggaagagc ccaaagcatc agaaatgtgc cagttataat  
 120  
 gggccaaaat cccctcttgt gtctccagaa gtatttgaaa aatacgttag gatctgcctc  
 180  
 acagacatgc tcccaggaca ctgcacagca aggaggtacg gcgggcccag ccagccaagg  
 240  
 cagaggagga catcactgcc acagcagggg gcctgactgg cagcaaaagg gacgactccg  
 300  
 gcgaaaagtc agcaggaaac aggacagggg ctggaccaat ggctccctc agccccacac  
 360  
 cccacccagg caggagcggg gcctggcccg gggcagggcg gtgggagagc tactgagtg  
 420  
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 480  
 tgggaaccca gg  
 492

<210> 3242

<211> 107

<212> PRT

<213> Homo sapiens

<400> 3242

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Gln | Asn | Pro | Leu | Leu | Cys | Leu | Gln | Lys | Tyr | Leu | Lys | Asn | Thr |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Leu | Gly | Ser | Ala | Ser | Gln | Thr | Cys | Ser | Gln | Asp | Thr | Arg | Gln | Gln | Gly |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Thr | Ala | Gly | Pro | Ala | Ser | Gln | Gly | Arg | Gly | Gly | His | His | Cys | His |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Ser | Arg | Gly | Pro | Asp | Trp | Gln | Lys | Gly | Arg | Leu | Arg | Arg | Lys | Val |     |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Ser | Arg | Lys | Gln | Asp | Arg | Gly | Trp | Thr | Asn | Gly | Leu | Pro | Gln | Pro | His |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Thr | Pro | Pro | Arg | Gln | Glu | Arg | Cys | Leu | Ala | Arg | Gly | Arg | Arg | Val | Gly |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Glu | Leu | Thr | Glu | Trp | Ala | Ala | Gly | His | Gly | Pro |     |     |     |     |     |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     |     |     |

<210> 3243

<211> 944

<212> DNA

<213> Homo sapiens

<400> 3243

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 120  
 tttagaggcaa aggtaaccca gaatctccca atgaaagaag gctgcacaga ggtctctctc  
 180  
 cttcgagttg ggtggtctgt tgatttttcc cgtccacagc ttggtgaaga tgaattctct  
 240  
 tacggtttcg atggacgagg actcaaggca gaaaatggac aatttgagga atttggccag  
 300

acttttgggg agaatgatgt tattggctgc tttgctaatt ttgagactga agaagtagaa  
 360  
 ctttccttct ccaagaatgg agaagaccta ggtgtggcat tctggatcag caaggattcc  
 420  
 ctggcagacc gggcccttct accccatgtc ctctgcaaaa attgtgttgt agaattaaac  
 480  
 ttcggtcaga aggaggagcc cttcttccca ccaccagaag agtttgtgtt cattcatgct  
 540  
 gtgcctgttg aggagcgtgt acgcactgca gtccctccca agaccataga ggaatgtgag  
 600  
 gtgattctga tgggtgggact acccggtatct ggaaagaccc agtgggcact gaaatatgca  
 660  
 aaagaaaacc ctgagaaaag atacaatgtc ctgggagctg agactgtgct caatcaaagt  
 720  
 aggatgaagg gtctcgagga gccagagatg gacccccaaa gccgagacct tttagttcag  
 780  
 caagcctccc agtgccttag taagctggtc cagattgctt cccggacaaa gaggaacttt  
 840  
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&lt;210&gt; 3244

&lt;211&gt; 314

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3244

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Leu | His | Phe | Gln | Val | Ser | Lys | Asp | Arg | Tyr | Gly | Gly | Gln | Pro | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Phe | Ser | Glu | Lys | Phe | Pro | Thr | Leu | Trp | Ser | Gly | Ala | Arg | Ser | Thr | Tyr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Val | Thr | Lys | Gly | Lys | Val | Cys | Phe | Glu | Ala | Lys | Val | Thr | Gln | Asn |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu | Pro | Met | Lys | Glu | Gly | Cys | Thr | Glu | Val | Ser | Leu | Leu | Arg | Val | Gly |
|     |     |     | 50  |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Trp | Ser | Val | Asp | Phe | Ser | Arg | Pro | Gln | Leu | Gly | Glu | Asp | Glu | Phe | Ser |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Tyr | Gly | Phe | Asp | Gly | Arg | Gly | Leu | Lys | Ala | Glu | Asn | Gly | Gln | Phe | Glu |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Glu | Phe | Gly | Gln | Thr | Phe | Gly | Glu | Asn | Asp | Val | Ile | Gly | Cys | Phe | Ala |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Asn | Phe | Glu | Thr | Glu | Glu | Val | Glu | Leu | Ser | Phe | Ser | Lys | Asn | Gly | Glu |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Asp | Leu | Gly | Val | Ala | Phe | Trp | Ile | Ser | Lys | Asp | Ser | Leu | Ala | Asp | Arg |
|     |     |     | 130 |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ala | Leu | Leu | Pro | His | Val | Leu | Cys | Lys | Asn | Cys | Val | Val | Glu | Leu | Asn |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Phe | Gly | Gln | Lys | Glu | Glu | Pro | Phe | Phe | Pro | Pro | Pro | Glu | Glu | Phe | Val |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Phe | Ile | His | Ala | Val | Pro | Val | Glu | Glu | Arg | Val | Arg | Thr | Ala | Val | Pro |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Pro | Lys | Thr | Ile | Glu | Glu | Cys | Glu | Val | Ile | Leu | Met | Val | Gly | Leu | Pro |

|   |     |     |
|---|-----|-----|
| 195   | 200 | 205 |
| Gly Ser Gly Lys Thr Gln Trp Ala Leu Lys Tyr Ala Lys Glu Asn Pro |     |     |
| 210   | 215 | 220 |
| Glu Lys Arg Tyr Asn Val Leu Gly Ala Glu Thr Val Leu Asn Gln Met |     |     |
| 225   | 230 | 235 |
| Arg Met Lys Gly Leu Glu Glu Pro Glu Met Asp Pro Lys Ser Arg Asp |     |     |
| 245   | 250 | 255 |
| Leu Leu Val Gln Gln Ala Ser Gln Cys Leu Ser Lys Leu Val Gln Ile |     |     |
| 260   | 265 | 270 |
| Ala Ser Arg Thr Lys Arg Asn Phe Ile Leu Asp Gln Cys Asn Val Tyr |     |     |
| 275   | 280 | 285 |
| Asn Ser Gly Gln Arg Arg Lys Leu Leu Leu Phe Lys Thr Phe Ser Arg |     |     |
| 290   | 295 | 300 |
| Lys Val Val Val Val Val Pro Asn Glu Glu                         |     |     |
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&lt;211&gt; 980

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3245

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Asp Val Gly Ala Asp Leu Leu Ser Met Cys Gln Arg Asn Ile Ala Leu  
50 55 60  
Asn Ser His Leu Ala Ala Thr Gly Gly Gly Ile Val Arg Val Lys Glu  
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<211> 260

<212> PRT

<213> Homo sapiens

<400> 3248

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| Asn | Pro | Ala | Leu | Trp | Lys | Tyr | Val | Arg | Pro | Arg | Gly | Cys | Val | Leu | Glu |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Trp | Val | Arg | Asn | Ile | Val | Ala | Asn | Arg | Leu | Ala | Ser | Asp | Gly | Ala | Thr |
|     |     |     | 20  |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Trp | Ala | Asp | Ile | Phe | Lys | Arg | Phe | Asn | Ser | Gly | Thr | Tyr | Asn | Asn | Gln |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Trp | Met | Ile | Val | Asp | Tyr | Lys | Ala | Phe | Ile | Pro | Gly | Gly | Pro | Ser | Pro |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Gly | Ser | Arg | Val | Leu | Thr | Ile | Leu | Glu | Gln | Ile | Pro | Gly | Met | Val | Val |
| 65  |     |     | 70  |     |     |     |     | 75  |     |     |     |     |     | 80  |     |
| Val | Ala | Asp | Lys | Thr | Ser | Glu | Leu | Tyr | Gln | Lys | Thr | Tyr | Trp | Ala | Ser |
|     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |     |
| Tyr | Asn | Ile | Pro | Ser | Phe | Glu | Thr | Val | Phe | Asn | Ala | Ser | Gly | Leu | Gln |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Ala | Leu | Val | Ala | Gln | Tyr | Gly | Asp | Trp | Phe | Ser | Tyr | Asp | Gly | Ser | Pro |
|     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |     |
| Arg | Ala | Gln | Ile | Phe | Arg | Arg | Asn | Gln | Ser | Leu | Val | Gln | Asp | Met | Asp |
|     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |     |
| Ser | Met | Val | Arg | Leu | Met | Arg | Tyr | Asn | Asp | Phe | Leu | His | Asp | Pro | Leu |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Ser | Leu | Cys | Lys | Ala | Cys | Asn | Pro | Gln | Pro | Asn | Gly | Glu | Asn | Ala | Ile |
|     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |     |     |
| Ser | Ala | Arg | Ser | Asp | Leu | Asn | Pro | Ala | Asn | Gly | Ser | Tyr | Pro | Phe | Gln |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 180 |     | 185 |     | 190 |     |     |     |     |     |     |     |     |     |     |
| Ala | Leu | Arg | Gln | Arg | Ser | His | Gly | Gly | Ile | Asp | Val | Lys | Val | Thr | Ser |
|     | 195 |     | 200 |     | 205 |     |     |     |     |     |     |     |     |     |     |
| Met | Ser | Leu | Ala | Arg | Ile | Leu | Ser | Leu | Leu | Ala | Ala | Ser | Gly | Pro | Thr |
|     | 210 |     | 215 |     | 220 |     |     |     |     |     |     |     |     |     |     |
| Trp | Asp | Gln | Val | Pro | Pro | Phe | Gln | Trp | Ser | Thr | Ser | Pro | Phe | Ser | Gly |
| 225 |     |     | 230 |     | 235 |     |     |     |     |     |     |     |     |     | 240 |
| Leu | Leu | His | Met | Gly | Gln | Pro | Asp | Leu | Trp | Lys | Phe | Ala | Pro | Val | Lys |
|     |     | 245 |     |     | 250 |     |     |     |     |     |     |     |     | 255 |     |
| Val | Ser | Trp | Asp |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 260 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 3249

&lt;211&gt; 4487

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3249

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<213> Homo sapiens

<400> 3250

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| Phe | His | Gln | Ser | Asn | Asn | Gly | Asn | Pro | Gly | Lys | Pro | Ser | Pro | Phe | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Trp | Val | Pro | Thr | Asp | Cys | Phe | Ser | Leu | Ser | Leu | Ser | Pro | Pro | His | Ser |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Arg | Cys | Ser | Gly | Ala | Arg | Cys | His | Arg | Pro | Leu | Ser | Arg | Gln | Leu | Cys |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ala | Ser | Gln | Arg | Ser | Met | Trp | Thr | Leu | Glu | Asp | Ser | Ser | Gly | Thr | Val |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Leu | His | Arg | Leu | Ile | Gln | Glu | Gln | Leu | Arg | Tyr | Gly | Asn | Leu | Thr | Glu |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Thr | Arg | Thr | Leu | Leu | Ala | Ile | Gln | Gln | Gln | Ala | Leu | Arg | Gly | Gly | Ala |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gly | Thr | Gly | Gly | Thr | Gly | Ser | Pro | Gln | Ala | Ser | Leu | Glu | Ile | Leu | Ala |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Pro | Glu | Asp | Ser | Gln | Val | Leu | Gln | Gln | Ala | Thr | Arg | Gln | Glu | Pro | Gln |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gly | Gln | Glu | His | Gln | Gly | Glu | Asn | His | Leu | Ala | Glu | Asn | Thr | Leu |     |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Tyr | Arg | Leu | Cys | Pro | Gln | Pro | Ser | Lys | Gly | Glu | Glu | Leu | Pro | Thr | Tyr |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Glu | Glu | Ala | Lys | Ala | His | Ser | Gln | Tyr | Tyr | Ala | Ala | Gln | Gln | Ala | Gly |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Thr | Arg | Pro | His | Ala | Gly | Asp | Arg | Asp | Pro | Arg | Gly | Ala | Pro | Gly | Gly |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ser | Arg | Arg | Gln | Asp | Glu | Ala | Leu | Arg | Glu | Leu | Arg | His | Gly | His | Val |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Arg | Ser | Leu | Ser | Glu | Arg | Leu | Leu | Gln | Leu | Ser | Leu | Glu | Arg | Asn | Gly |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Ala | Arg | Ala | Pro | Ser | His | Met | Ser | Ser | Ser | His | Ser | Phe | Pro | Gln | Leu |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Ala | Arg | Asn | Gln | Gly | Pro | Pro | Leu | Arg | Gly | Pro | Pro | Ala | Glu | Gly |     |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |     |
| Pro | Glu | Ser | Arg | Gly | Pro | Pro | Pro | Gln | Tyr | Pro | His | Val | Val | Leu | Ala |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| His | Glu | Thr | Thr | Thr | Ala | Val | Thr | Asp | Pro | Arg | Tyr | Arg | Ala | Arg | Gly |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Ser | Pro | His | Phe | Gln | His | Ala | Glu | Val | Arg | Ile | Leu | Gln | Ala | Gln | Val |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |     |
| Pro | Pro | Val | Phe | Leu | Gln | Gln | Gln | Gln | Gln | Tyr | Gln | Tyr | Leu | Gln | Gln |

2452

|   |     |     |
|---|-----|-----|
| 755   | 760 | 765 |
| Thr Thr Ala Asp Arg Ala Pro Thr Glu Glu Pro Val Val Thr Ala Pro |     |     |
| 770   | 775 | 780 |
| Pro Ala Ala His Ala Lys His Gly Ser Arg Asp Gly Ser Thr Gln Thr |     |     |
| 785   | 790 | 795 |
| Asp Gly Pro Pro Asp Ser Thr Ser Thr Cys Leu Pro Pro Glu Pro Asp |     |     |
| 805   | 810 | 815 |
| Ser Leu Leu Gly Cys Ser Ser Ser Gln Arg Ala Ala Ser Leu Asp Ser |     |     |
| 820   | 825 | 830 |
| Val Ala Thr Ser Arg Val Gln Asp Leu Ser Asp Met Val Glu Ile Leu |     |     |
| 835   | 840 | 845 |
| Ile   |     |     |

&lt;210&gt; 3251

&lt;211&gt; 2595

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3251

```

acgcgtggaa cggcgtagag aagagcttta tcgtcaatat tttgaggaaa tccagagacg
60
ctttgatgcc gaaaggccgt tgattgttct gtgattgtgg tcaacaaaca gacaaaagac
120
tatgctgagt ctgtggggcg gaaggtgcga gacctaggca tggtagtgga cttgatcttc
180
cttaacacag aagtgtcact gtcacaagcc ttggaggatg ttagcagggg aggttctcct
240
tttgctattg tcatcaccca gcaacaccag attcaccgct cctgcacagt caacatcatg
300
tttggaaccc cgcaagagca tcgcaacatg cccaagcag atgccatggt gctggtgggc
360
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420
caggcagcca agatggccga tgaagccatc ctgcaggaaa gagagagagg aggccctgag
480
gagggagtgc gtggggggcca cctccagcc atccagagcc tcatcaacct gctggcagac
540
aacaggtacc tctactgctga agagactgac aagatcatca actacctgag agagcggaag
600
gagcggctga tgaggagcag caccgactct ctgcctggtg agctacgtgg caggccgagg
660
cccgatttcc cgccaaccac tcggggcgac ctgggtgcc tcgctgaaga cacagccaag
720
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780
cccacctcc cagcaagagc ttcaggccaa aatcctcagc ctcttcaata gtggcacagt
840
gacggccaat agcagctctg catccccctc gggttctgcc ggaaacaccc caaaccagaa
900
tttttccaca gcagcaaaca gccagcctca acaaagatca caggcttctg gcaatcagcc
960
tccaagcatt ttgggacagg gaggatctgc tcagaacatg ggccccagac ctggggctcc
1020

```

ttcccaaggg ctttttggcc agccttccag tcgcctggca cctgctagca acatgactag  
1080  
ccagaggcct gtgtcttcca caggtatcaa ctttgacaat ccaagtgtac agaaggctct  
1140  
ggataccctg atccagagtg gccctgctct ctcccacctg gttagccaga ccacagcaca  
1200  
gatggggcag ccacaggccc ccatgggacg ttaccagagg cattactgaa gctaaatctt  
1260  
tcaactctcc ccagtcccct catcccctgg cctcctccca cttacttggt ctaaatagag  
1320  
ctgtttggag gatgttctct gcgctcccag gccggcatcg agtgtcatca atttctacca  
1380  
cctgctctct cttctgcca aggtgtgtgt gcttattcct taaaaagttt atactgcatt  
1440  
tggggctgta tctttttttg ttttttggtt tgtagaaaat aaatatctcc gggggcagta  
1500  
caggtgtctg ggcttgtatt tgatgggggt tctccggctc ctgtttctac tggatttggg  
1560  
gccaggccca gctagccaag tttggaatgg catttgtcat gtcagtagcc accacctttg  
1620  
ttcattgtga acctaccaag gctttccagc ttcatacaca ttgaccagag ctcaagctcc  
1680  
tgctgcaac tcctgcctag agttgaagaa aagcaaaactg gccttggcag gcacagtgtc  
1740  
atcataccct caccocatat gtttggggtc tgcttgagga ttcataaatc agccactctg  
1800  
gattgttgag gaatggccat ggcagccaca gaaaaaagaa tttttctctc tgagccaagg  
1860  
ttgttttttg tttttttctc ttttcttttt tgttttcatt tcattggaag atctccaatg  
1920  
gactgaacag ctccagtcag cagcagttac caaaaactgt gaatctgggc cccaccactc  
1980  
ttccctgtta accagttctg tcagcatccc cctctccagc agcacttcca tgaagttggg  
2040  
tctgagactc tggccgtgaa caccogtttc ttcagtgatt tgttttgggc ttttggtc  
2100  
aaacccagag ctcttgtttt tgtctagact cttattctgt ttcttgagca gcaggaggta  
2160  
gggaccactt tgatgtcaga cttctggtag ctggacatgt tctcgagatg ggtggctgtt  
2220  
cgcgactttt gtaccagagt gaaattgtta gaaggagggt ttctggctgt ggttctaaat  
2280  
ggagccccag gaagctgccc tctccccagg gtttgtgctc agtagagccc tgtggatcac  
2340  
agtcttgagg tcctctagca ggggtgaggg agagcagcga cttcagctga gtccctgcc  
2400  
gtggttaagc aaacaatggg ttcaaaattc aaggccccca aatggcagca ttttatgttc  
2460  
tgacctgttt gtgttatata gtggtttttt ttttctctt tggaactctt gtgttgtaa  
2520  
taaaatgaaa tgattacttt ttaattaaaa tgaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
2580  
aaaaaaaaaa aaaaa  
2595

&lt;210&gt; 3252

&lt;211&gt; 254

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3252

```

Cys Arg Lys Ala Val Asp Cys Ser Val Ile Val Val Asn Lys Gln Thr
 1           5           10           15
Lys Asp Tyr Ala Glu Ser Val Gly Arg Lys Val Arg Asp Leu Gly Met
          20           25           30
Val Val Asp Leu Ile Phe Leu Asn Thr Glu Val Ser Leu Ser Gln Ala
          35           40           45
Leu Glu Asp Val Ser Arg Gly Gly Ser Pro Phe Ala Ile Val Ile Thr
          50           55           60
Gln Gln His Gln Ile His Arg Ser Cys Thr Val Asn Ile Met Phe Gly
65           70           75           80
Thr Pro Gln Glu His Arg Asn Met Pro Gln Ala Asp Ala Met Val Leu
          85           90           95
Val Ala Arg Asn Tyr Glu Arg Tyr Lys Asn Glu Cys Arg Glu Lys Glu
          100          105          110
Arg Glu Glu Ile Ala Arg Gln Ala Ala Lys Met Ala Asp Glu Ala Ile
          115          120          125
Leu Gln Glu Arg Glu Arg Gly Gly Pro Glu Glu Gly Val Arg Gly Gly
          130          135          140
His Pro Pro Ala Ile Gln Ser Leu Ile Asn Leu Leu Ala Asp Asn Arg
145           150           155           160
Tyr Leu Thr Ala Glu Glu Thr Asp Lys Ile Ile Asn Tyr Leu Arg Glu
          165          170          175
Arg Lys Glu Arg Leu Met Arg Ser Ser Thr Asp Ser Leu Pro Gly Glu
          180          185          190
Leu Arg Gly Arg Pro Arg Pro Asp Phe Pro Pro Thr Thr Arg Gly Asp
          195          200          205
Leu Gly Cys Leu Ala Glu Asp Thr Ala Lys Leu Pro Thr Ala Pro Glu
          210          215          220
Arg Pro Ser Ala Pro Leu Cys Tyr Thr His Ser Ile Cys Thr Pro His
225           230           235           240
Leu Pro Ala Arg Ala Ser Gly Gln Asn Pro Gln Pro Leu Gln
          245          250

```

&lt;210&gt; 3253

&lt;211&gt; 686

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3253

```

ttttgcagtt ggaacatctt tccagtttta ttttcagttc tcctctctgc actccaaggt
60
cataggattt ccacatgccc ttggaagagc ctttggaagg tattttcatc cttcctactg
120
gtaaaatggc atcaagggtc cccaccgggt caagatgggg accttgacta tatggcaatg
180
aagacaggga caccctggca gtagcaggta gcctttggcc atctctgcag caggctggtg
240

```

tttgggatcc acgaggcacg gaaagtcagc actctggagg acctgggttg ggtaaccctg  
 300  
 ggccagggtgc agatcgtggg aagctggata tgtgaaatgg cagggtgctgg tgaacttgcg  
 360  
 ctctcctcc ctctggcct catgttctcg tgatgggaag aagccgggga gtcccaggtc  
 420  
 tttggcagtc atgtggggtc ttttgaaagc agggtaacca tctgttagct tgggggttggg  
 480  
 gttagggatg ggcttgtaaa actctttgtc ccggagttga gcacgagct ttgcctgctc  
 540  
 ttgcggcgtg accctggagt atttgtgctt cctgtagggc tgatagtcga ccatgtggga  
 600  
 gctttgttat atgtctaaat ccacagggtc ctgtcccggg tatttcacac ctgccatggc  
 660  
 aaacgacaga cagcttctct cctagg  
 686

&lt;210&gt; 3254

&lt;211&gt; 180

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3254

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Gly | Val | Lys | Tyr | Pro | Gly | Gln | Asp | Pro | Val | Asp | Leu | Asp | Ile |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Tyr | Gln | Ser | Ser | His | Met | Val | Asp | Tyr | Gln | Pro | Tyr | Arg | Lys | His | Lys |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Tyr | Ser | Arg | Val | Thr | Pro | Gln | Glu | Gln | Ala | Lys | Leu | Asp | Ala | Gln | Leu |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Arg | Asp | Lys | Glu | Phe | Tyr | Arg | Pro | Ile | Pro | Asn | Pro | Asn | Pro | Lys | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Thr | Asp | Gly | Tyr | Pro | Ala | Phe | Lys | Arg | Pro | His | Met | Thr | Ala | Lys | Asp |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Leu | Gly | Leu | Pro | Gly | Phe | Phe | Pro | Ser | Gln | Glu | His | Glu | Ala | Thr | Arg |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Glu | Asp | Glu | Arg | Lys | Phe | Thr | Ser | Thr | Cys | His | Phe | Thr | Tyr | Pro | Ala |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ser | His | Asp | Leu | His | Leu | Ala | Gln | Gly | Asp | Pro | Asn | Gln | Val | Leu | Gln |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ser | Ala | Asp | Phe | Pro | Cys | Leu | Val | Asp | Pro | Lys | His | Gln | Pro | Ala | Ala |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Glu | Met | Ala | Lys | Gly | Tyr | Leu | Leu | Leu | Pro | Gly | Cys | Pro | Cys | Leu | His |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Cys | His | Ile | Val | Lys | Val | Pro | Ile | Leu | Asn | Arg | Trp | Gly | Pro | Leu | Met |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Pro | Phe | Tyr | Gln |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     | 180 |     |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 3255

&lt;211&gt; 724

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3255

nntgtacatg cgtgtgcgtc tgtgattgtg tgggtgtgtg atagtgtagg ggagccagga  
 60  
 gcgagaggag aggacggcga tcgtagggga cacctgagag tcagaggccc gagggggctg  
 120  
 ggactcatgt cgaggtcggg gaaggatgta aaaccggac ggacatcact gtaggccgca  
 180  
 cctgctgaga ggccagagct gcctccttga gagtgaagtt gtttacagac aagagaagag  
 240  
 atcttggcgg acacatcaca gctagccgcg aatcccgaag ggtcagcaga gcctagaaag  
 300  
 gaatatgagg ggggtcggaa tgaggcaggc gaaaggcacg gacgtgggag ggcacggcta  
 360  
 cccaacgggg acacctacga agggagctac gaattcggta aaagacatgg ccaggggatc  
 420  
 tacaaattta aaaatgggtgc tcgatatatc ggagaatatg ttagaaataa aaagcacggt  
 480  
 caaggcactt ttatatatcc agatggatcc agatatgaag gagagtgggc aaatgacctg  
 540  
 cggcacggcc atggcgtata ctactacatc aataatgaca cctacactgg agagtggttt  
 600  
 gctcatcaaa ggcattgggca aggcacctat ttatacgag agacgggcag taagtatgtt  
 660  
 ggcacctggg tgaacggaca gcaggagggc acggccgagc tcattcacct gaaccacagg  
 720  
 tacc  
 724

<210> 3256

<211> 169

<212> PRT

<213> Homo sapiens

<400> 3256

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Cys | Leu | Gln | Thr | Arg | Glu | Glu | Ile | Leu | Ala | Asp | Thr | Ser | Gln | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Ala | Asn | Pro | Glu | Gly | Ser | Ala | Glu | Pro | Arg | Lys | Glu | Tyr | Glu | Gly |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Arg | Asn | Glu | Ala | Gly | Glu | Arg | His | Gly | Arg | Gly | Arg | Ala | Arg | Leu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Pro | Asn | Gly | Asp | Thr | Tyr | Glu | Gly | Ser | Tyr | Glu | Phe | Gly | Lys | Arg | His |
|     |     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |
| Gly | Gln | Gly | Ile | Tyr | Lys | Phe | Lys | Asn | Gly | Ala | Arg | Tyr | Ile | Gly | Glu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Tyr | Val | Arg | Asn | Lys | Lys | His | Gly | Gln | Gly | Thr | Phe | Ile | Tyr | Pro | Asp |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Gly | Ser | Arg | Tyr | Glu | Gly | Glu | Trp | Ala | Asn | Asp | Leu | Arg | His | Gly | His |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |
| Gly | Val | Tyr | Tyr | Tyr | Ile | Asn | Asn | Asp | Thr | Tyr | Thr | Gly | Glu | Trp | Phe |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |
| Ala | His | Gln | Arg | His | Gly | Gln | Gly | Thr | Tyr | Leu | Tyr | Ala | Glu | Thr | Gly |
|     |     | 130 |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |
| Ser | Lys | Tyr | Val | Gly | Thr | Trp | Val | Asn | Gly | Gln | Gln | Glu | Gly | Thr | Ala |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Glu | Leu | Ile | His | Leu | Asn | His | Arg | Tyr |     |     |     |     |     |     |     |

165

&lt;210&gt; 3257

&lt;211&gt; 368

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3257

```

nncccggggt acatagactc cccacacctac agccggcagg gcatgtcccc caccttctcc
60
cgctcacctc accactacta ccgctctgggt gatttgtcta cagcaaccaa gagcgaaaca
120
agtgaagaca tcagccagac ctccaagtac agtcccatct actcgccaga cccctactat
180
gcttcggagt ctgagtactg gacctaccat ggggtcccca aagtgccccg agccagaagg
240
ttctcgtctg gaggagagga ggatgatttt gaccgcagca tgcacaagct ccaaagtgga
300
attggccggc tgattctgaa ggaagaaatg aaggcccggt cgagctccta tgcagatccc
360
tggcgcgc
368

```

&lt;210&gt; 3258

&lt;211&gt; 122

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3258

```

Xaa Pro Gly Tyr Ile Asp Ser Pro Thr Tyr Ser Arg Gln Gly Met Ser
1      5      10      15
Pro Thr Phe Ser Arg Ser Pro His His Tyr Tyr Arg Ser Gly Asp Leu
20     25     30
Ser Thr Ala Thr Lys Ser Glu Thr Ser Glu Asp Ile Ser Gln Thr Ser
35     40     45
Lys Tyr Ser Pro Ile Tyr Ser Pro Asp Pro Tyr Tyr Ala Ser Glu Ser
50     55     60
Glu Tyr Trp Thr Tyr His Gly Ser Pro Lys Val Pro Arg Ala Arg Arg
65     70     75     80
Phe Ser Ser Gly Gly Glu Glu Asp Asp Phe Asp Arg Ser Met His Lys
85     90     95
Leu Gln Ser Gly Ile Gly Arg Leu Ile Leu Lys Glu Glu Met Lys Ala
100    105    110
Arg Ser Ser Ser Tyr Ala Asp Pro Trp Arg
115    120

```

&lt;210&gt; 3259

&lt;211&gt; 747

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3259

```

acgcgtgaag ggcgcaccct ctgctgcagc actggccacc ccggacacgc tgcagggcca
60

```

gtgctcagcc ttcgtacagc tctgggcccgg cctgcagccc atcttgtgtg gcaacaaccg  
 120  
 caccattgaa cccggagcgc tgcggcgggg caacatgagc tccctgggct ttacgagcaa  
 180  
 ggagcagcgg aacctggggc ttctcgtgca cctcatgacc agcaacccca aaatcctgta  
 240  
 cgcgcctgcg ggctctgagg tcgaccgcgt catcctcaag gccaacgaga cttttgcttt  
 300  
 tgtgggcaac gtgactcact atgcccaggt ctgggtcaac atctcggcgg agatccgcag  
 360  
 cttcctggag cagggcaggc tgcagcaaca cctgcgctgg ctgcagcagt atgtagcaga  
 420  
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 480  
 acaggacaac ttctcgtgct ccagtggcat ggccctcctg cagcagctgg ataccattga  
 540  
 caacgcggcc tgcggctgga tccagttcat gtccaagggt agcgtggaca tcttcaaggg  
 600  
 cttccccgac gaggagagca ttgtcaacta caccctcaac caggcctacc aggacaacgt  
 660  
 cactgttttt gccagtgtga tcttccagac ccggaaggac ggctcgtccc gcctcacgtg  
 720  
 cactacaaga tccgccagaa ctccagc  
 747

<210> 3260

<211> 197

<212> PRT

<213> Homo sapiens

<400> 3260

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Ser | Leu | Gly | Phe | Thr | Ser | Lys | Glu | Gln | Arg | Asn | Leu | Gly | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Val | His | Leu | Met | Thr | Ser | Asn | Pro | Lys | Ile | Leu | Tyr | Ala | Pro | Ala |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Ser | Glu | Val | Asp | Arg | Val | Ile | Leu | Lys | Ala | Asn | Glu | Thr | Phe | Ala |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Phe | Val | Gly | Asn | Val | Thr | His | Tyr | Ala | Gln | Val | Trp | Leu | Asn | Ile | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ala | Glu | Ile | Arg | Ser | Phe | Leu | Glu | Gln | Gly | Arg | Leu | Gln | Gln | His | Leu |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Arg | Trp | Leu | Gln | Gln | Tyr | Val | Ala | Glu | Leu | Arg | Leu | His | Pro | Glu | Ala |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Leu | Asn | Leu | Ser | Leu | Asp | Glu | Leu | Pro | Pro | Ala | Leu | Arg | Gln | Asp | Asn |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Phe | Ser | Leu | Pro | Ser | Gly | Met | Ala | Leu | Leu | Gln | Gln | Leu | Asp | Thr | Ile |
|     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Asp | Asn | Ala | Ala | Cys | Gly | Trp | Ile | Gln | Phe | Met | Ser | Lys | Val | Ser | Val |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Asp | Ile | Phe | Lys | Gly | Phe | Pro | Asp | Glu | Glu | Ser | Ile | Val | Asn | Tyr | Thr |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Leu | Asn | Gln | Ala | Tyr | Gln | Asp | Asn | Val | Thr | Val | Phe | Ala | Ser | Val | Ile |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Phe | Gln | Thr | Arg | Lys | Asp | Gly | Ser | Ser | Arg | Leu | Thr | Cys | Thr | Thr | Arg |

180  
Ser Ala Arg Thr Pro  
195

185

190

&lt;210&gt; 3261

&lt;211&gt; 1323

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3261

```

nnacgcgtac agccaccttc cttaccgccg gccctgccgg gagcctgctt cttatcattt
60
gcacctcatt gctttcctca cctgccatct cacacgtggc tgccctgtgt tgccctgtg
120
tgctgtgcc aattgtgttt tttgctctgt gtacattttg gttttatttg ggggtgctgt
180
tgatgatttc ctttgttccg gtgttctgtc tccccctcgt ggctgtgtgg gggctgcctg
240
gcccgtgct tgccgcctcc atagatcccc gttgcgcagc catctgtcat ggacgacatt
300
gaggtgtggc tcaggaccga cctgaagggt gatgatctgg aggaggtgt cacaagtga
360
gagtttgata aattccttga agaaagagcc aaagctgtg aaatggttcc cgacctcccc
420
tcgcccccca tggaggctcc tgccccagcc tcaaaccctt ctggccggaa gaagccagag
480
cggtcagagg atgccctctt cgccctgtga gcagctctgt ggtttgcctc cccagatggc
540
gggtccccgc ttgcaccccg tggacaccgg gcactggcca ctctacatc cccagctcca
600
cacggcctgc acacctgtgt ttccatggaa atgccaccgt gtctgtctcc aggctccca
660
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720
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780
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1020
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1140
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1200
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1260
ctgagacgac actaccaata aaccaaactg ccacgcacaa aaaaaaaaaa aaaaaaaaaa
1320

```

aaa

1323

&lt;210&gt; 3262

&lt;211&gt; 81

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3262

```

Ile Pro Val Ala Gln Pro Ser Val Met Asp Asp Ile Glu Val Trp Leu
 1             5             10             15
Arg Thr Asp Leu Lys Gly Asp Asp Leu Glu Glu Gly Val Thr Ser Glu
      20             25             30
Glu Phe Asp Lys Phe Leu Glu Glu Arg Ala Lys Ala Ala Glu Met Val
      35             40             45
Pro Asp Leu Pro Ser Pro Pro Met Glu Ala Pro Ala Pro Ala Ser Asn
      50             55             60
Pro Ser Gly Arg Lys Lys Pro Glu Arg Ser Glu Asp Ala Leu Phe Ala
65             70             75             80
Leu

```

&lt;210&gt; 3263

&lt;211&gt; 1128

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3263

```

agccgctacc gccgcagcag cggggacgag ctcagggagg acgatgagcc cgtcaagaag
60
cggggacgca agggccgggg cgggggtccc ccgtcctcct ctgactccga gcccgaggcc
120
gagctggaga gagaggccaa gaaatcagcg aagaagccgc agtcctcaag cacagagccc
180
gccaggaaac ctggccagaa ggagaagaga gtgcggcccg aggagaagca acaagccaag
240
cccgtgaagg tggagcggac ccggaagcgg tccgagggct tctcgatgga caggaaggta
300
gagaagaaga aagagccctc cgtggaggag aagctgcaga agctgcacag tgagatcaag
360
tttgccctaa aggtcgacag cccggacgtg aaggggtgcc tgaatgccct agaggagctg
420
ggaaccctgc aggtgacctc tcagatcctc cagaagaaca cagacgtggt ggccaccttg
480
aagaagattc gccgttacaa agcgaacaag gacgtaatgg agaaggcagc agaagtctat
540
acccggctca agtcgcgggt cctcggccca aagatcgagg cggcgcagaa agtgaacaag
600
gctgggatgg agaaggagaa ggccgaggag aagctggccg gggaggagct ggccggggag
660
gagggccccc aggagaagga ggaggacaag ccagcaccg atctctcagc ccagtgtaat
720
ggcgaggcca catcacagaa gggggagagc gcagaggaca aggagcacga ggagggtcgg
780

```

gactcggagg aggggccaag gtgtggctcc tctgaagacc tgcacgacag cgtacgggag  
 840  
 ggtccccgacc tggacaggcc tgggagcgac cggcaggagc gcgagagggc acggggggac  
 900  
 tcggaggccc tggacgagga gagctgagcc gcgggcagcc aggcccagcc cccgcccag  
 960  
 ctcaggctgc cctctcctt ccccggtcgc caggagagca gagcagagaa ctgtggggaa  
 1020  
 cgctgtgctg tttgtatttg ttcccttggg ttttttttct ctgcctaatt tctgtgattt  
 1080  
 ccaaccaaca tgaaatgact ataaatgggt tttttaatga aaaaaaaaa  
 1128

<210> 3264

<211> 308

<212> PRT

<213> Homo sapiens

<400> 3264

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Arg | Tyr | Arg | Arg | Ser | Ser | Gly | Asp | Glu | Leu | Arg | Glu | Asp | Asp | Glu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     | 15  |     |     |
| Pro | Val | Lys | Lys | Arg | Gly | Arg | Lys | Gly | Arg | Gly | Arg | Gly | Pro | Pro | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Ser | Ser | Asp | Ser | Glu | Pro | Glu | Ala | Glu | Leu | Glu | Arg | Glu | Ala | Lys | Lys |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Ser | Ala | Lys | Lys | Pro | Gln | Ser | Ser | Ser | Thr | Glu | Pro | Ala | Arg | Lys | Pro |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Gly | Gln | Lys | Glu | Lys | Arg | Val | Arg | Pro | Glu | Glu | Lys | Gln | Gln | Ala | Lys |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Pro | Val | Lys | Val | Glu | Arg | Thr | Arg | Lys | Arg | Ser | Glu | Gly | Phe | Ser | Met |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Asp | Arg | Lys | Val | Glu | Lys | Lys | Lys | Glu | Pro | Ser | Val | Glu | Glu | Lys | Leu |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     | 110 |     |     |     |
| Gln | Lys | Leu | His | Ser | Glu | Ile | Lys | Phe | Ala | Leu | Lys | Val | Asp | Ser | Pro |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Asp | Val | Lys | Gly | Cys | Leu | Asn | Ala | Leu | Glu | Glu | Leu | Gly | Thr | Leu | Gln |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Val | Thr | Ser | Gln | Ile | Leu | Gln | Lys | Asn | Thr | Asp | Val | Val | Ala | Thr | Leu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Lys | Lys | Ile | Arg | Arg | Tyr | Lys | Ala | Asn | Lys | Asp | Val | Met | Glu | Lys | Ala |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     | 175 |     |     |     |
| Ala | Glu | Val | Tyr | Thr | Arg | Leu | Lys | Ser | Arg | Val | Leu | Gly | Pro | Lys | Ile |
|     | 180 |     |     |     |     |     |     | 185 |     |     |     | 190 |     |     |     |
| Glu | Ala | Val | Gln | Lys | Val | Asn | Lys | Ala | Gly | Met | Glu | Lys | Glu | Lys | Ala |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Glu | Glu | Lys | Leu | Ala | Gly | Glu | Glu | Leu | Ala | Gly | Glu | Glu | Ala | Pro | Gln |
|     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |     |
| Glu | Lys | Ala | Glu | Asp | Lys | Pro | Ser | Thr | Asp | Leu | Ser | Ala | Pro | Val | Asn |
| 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |     |
| Gly | Glu | Ala | Thr | Ser | Gln | Lys | Gly | Glu | Ser | Ala | Glu | Asp | Lys | Glu | His |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     | 255 |     |     |     |
| Glu | Glu | Gly | Arg | Asp | Ser | Glu | Glu | Gly | Pro | Arg | Cys | Gly | Ser | Ser | Glu |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     | 270 |     |     |     |
| Asp | Leu | His | Asp | Ser | Val | Arg | Glu | Gly | Pro | Asp | Leu | Asp | Arg | Pro | Gly |

275                      280                      285  
 Ser Asp Arg Gln Glu Arg Glu Arg Ala Arg Gly Asp Ser Glu Ala Leu  
 290                      295                      300  
 Asp Glu Glu Ser  
 305

<210> 3265  
 <211> 524  
 <212> DNA  
 <213> Homo sapiens

<400> 3265  
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 60  
 ctttttcgtg gttttcaaaa tgtttccatt gagggcgtat tacttttata atcaacaaaa  
 120  
 gagaaagtat aacttcattt tagaaattct cacctaaggc atttgaaaaa taatccaaaa  
 180  
 ggtacattat tggtgatttt tcttccttct agaaaggatc ttgttcgagt agaagccaca  
 240  
 gtcattgaaa agacagaatc atggccaaga atcattatga gattcaggaa aaggaaaaac  
 300  
 ttcaagaaga aaagaagtaa gttagagaaa gtaccgctgg gccctgttgc acggtgctgg  
 360  
 ttgcccaggc gcatgcggac ggagggtgtg gggcacgtgg gtctcgggac aggaagccca  
 420  
 ggcaggtctc aacctggctg ccactgcca cttgccaccc tcatcctaga gggagcacc  
 480  
 agaggggtcca gcctcgctcc ccttctcctc cacgctccac gcgt  
 524

<210> 3266  
 <211> 82  
 <212> PRT  
 <213> Homo sapiens

<400> 3266  
 Met Arg Phe Arg Lys Arg Lys Asn Phe Lys Lys Lys Arg Ser Lys Leu  
 1                      5                      10                      15  
 Glu Lys Val Pro Leu Gly Pro Val Ala Arg Cys Trp Leu Pro Arg Arg  
 20                      25                      30  
 Met Arg Thr Glu Gly Val Gly His Val Gly Leu Gly Thr Gly Ser Pro  
 35                      40                      45  
 Gly Arg Ser Gln Pro Gly Cys His Cys Pro Leu Ala Thr Leu Ile Leu  
 50                      55                      60  
 Glu Gly Ala Pro Arg Gly Ser Ser Leu Ala Pro Leu Leu Leu His Ala  
 65                      70                      75                      80  
 Pro Arg

<210> 3267  
 <211> 393  
 <212> DNA  
 <213> Homo sapiens

<400> 3267  
gtcgaatatg catgcagagt acaggggttta gaacatgaca tggaagagat caatgctcga  
60  
tggaatacat tgaataaaaaa ggtcgcacaa agaattgcac agctacagga agctttgttg  
120  
cattgtggga agtttcaaga tgccttggag ccattgctca gctggttggc agataccgag  
180  
gagctcatag ccaatcagaa acctccatct gctgagtata aagtgggtgaa agcacagatc  
240  
caagaacaga agttgctcca ggggtccta gatgatcgaa aggccacagt agacatgctt  
300  
caagcagaag gaggcagaat agcccagtca gcagagctgg ctgatagaga gaaaatcact  
360  
ggacagctgg agagtcttga aagtagatgg act  
393

<210> 3268  
<211> 131  
<212> PRT  
<213> Homo sapiens

<400> 3268  
Val Glu Tyr Ala Cys Arg Val Gln Gly Leu Glu His Asp Met Glu Glu  
1 5 10 15  
Ile Asn Ala Arg Trp Asn Thr Leu Asn Lys Lys Val Ala Gln Arg Ile  
20 25 30  
Ala Gln Leu Gln Glu Ala Leu Leu His Cys Gly Lys Phe Gln Asp Ala  
35 40 45  
Leu Glu Pro Leu Leu Ser Trp Leu Ala Asp Thr Glu Glu Leu Ile Ala  
50 55 60  
Asn Gln Lys Pro Pro Ser Ala Glu Tyr Lys Val Val Lys Ala Gln Ile  
65 70 75 80  
Gln Glu Gln Lys Leu Leu Gln Arg Leu Leu Asp Asp Arg Lys Ala Thr  
85 90 95  
Val Asp Met Leu Gln Ala Glu Gly Gly Arg Ile Ala Gln Ser Ala Glu  
100 105 110  
Leu Ala Asp Arg Glu Lys Ile Thr Gly Gln Leu Glu Ser Leu Glu Ser  
115 120 125  
Arg Trp Thr  
130

<210> 3269  
<211> 1423  
<212> DNA  
<213> Homo sapiens

<400> 3269  
ctgtatcaaa aataatagta actttttgaa tatacacaat ttatctagaa tctattttcc  
60  
tttgaagctg taactttatg agcgattatt tactaccttt gagaaatgtg ttttagtata  
120  
aaatatagga tgtggaagcg aaaaaatatc tgggtagcaa gtgagggtgta ctcaaaaata  
180

agcaaaagtc acgtgggtct gatatttatac cctcgctgga aagcttggtc tcagacacac  
 240  
 tgttactgca agtgtgtgtg agggggaaac tctcacacac tttgcagttg aggacagggc  
 300  
 tagactttga ggtggaccct ggctcccagg gctgtgtact ccagcccgt gtttctcttt  
 360  
 tgctcagact gaacaagtgg aacgaaatta cattaaagaa aagaaggcag cagtgaagaa  
 420  
 atttgaagac aagaagggtg agctgaaaga gaacctgatt gctgagctag aagaaaagaa  
 480  
 gaaaatgatt gaaaacgaaa tgctgacaat ggaactgaat ggagattcta tggaggtgaa  
 540  
 acctatcatg accagaaagt tgcggaggcg accaaatgat cccgtcccca tcccagacaa  
 600  
 gaggaggaaa cctgctccag ccagctaaa ctatttggtta acagatgaac agatcatgga  
 660  
 ggatctgaga acattaaata agcttaagtc acccaagaga ccagcatctc catcctctcc  
 720  
 tgagcacttg cctgcaacac ccgcggaatc tccagcacag agatttgagg cgcggataga  
 780  
 agatggcaaa ctgtattatg acaaaagatg gtaccacaag agccaggcca tctatctgga  
 840  
 gtcaaaggac aaccagaaac tgagctgcgt gatcagttct gtaggagcca atgagatctg  
 900  
 ggtgaggaag acaagtgaca gcaccaagat gaggatctac ctgggtcagc ttcagcgcgg  
 960  
 gctcttcgtg atccgcgggc gctcagctgc ttgactttct acagtgtctt tctcttgacc  
 1020  
 ctttttctgg agtgggtttt atttttgttt tgtttcgttt tctccttaat agaaaaatgt  
 1080  
 taacttactg ggaatagcta ctcagccttg gaaatggaga gcactgcagt gaattcttta  
 1140  
 gggcactttt gtggcgggat gcttccaact ttgtcagttt tttctgcctc aacttcttcc  
 1200  
 agacatcagt caccatgaga ctgttttact ttcaggcgta ttgggggggt tgatttactt  
 1260  
 tctttttatt tctttatttt ttgcttatac ttgtttttga aaacctctc tgagtttgaa  
 1320  
 gggacagcta tttttattga ttatctttta gtctctctac catggagaag agcaggaagg  
 1380  
 gatacactct ccagtgcatt ttcattgttt gaatcggatt agt  
 1423

&lt;210&gt; 3270

&lt;211&gt; 169

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3270

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ile | Glu | Asn | Glu | Met | Leu | Thr | Met | Glu | Leu | Asn | Gly | Asp | Ser | Met |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Glu | Val | Lys | Pro | Ile | Met | Thr | Arg | Lys | Leu | Arg | Arg | Arg | Pro | Asn | Asp |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Pro | Val | Pro | Ile | Pro | Asp | Lys | Arg | Arg | Lys | Pro | Ala | Pro | Ala | Gln | Leu |

```

      35      40      45
Asn Tyr Leu Leu Thr Asp Glu Gln Ile Met Glu Asp Leu Arg Thr Leu
  50      55      60
Asn Lys Leu Lys Ser Pro Lys Arg Pro Ala Ser Pro Ser Ser Pro Glu
  65      70      75      80
His Leu Pro Ala Thr Pro Ala Glu Ser Pro Ala Gln Arg Phe Glu Ala
      85      90      95
Arg Ile Glu Asp Gly Lys Leu Tyr Tyr Asp Lys Arg Trp Tyr His Lys
      100      105      110
Ser Gln Ala Ile Tyr Leu Glu Ser Lys Asp Asn Gln Lys Leu Ser Cys
      115      120      125
Val Ile Ser Ser Val Gly Ala Asn Glu Ile Trp Val Arg Lys Thr Ser
      130      135      140
Asp Ser Thr Lys Met Arg Ile Tyr Leu Gly Gln Leu Gln Arg Gly Leu
  145      150      155      160
Phe Val Ile Arg Arg Arg Ser Ala Ala
      165

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&lt;210&gt; 3271

&lt;211&gt; 464

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3271

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tcatgagcag ggcccaattc tggcttctct gtggctcgcca tccatgtgct gggcgtcact
60
gaaggcactg gggatacagc cgagcacaag atggacagag atccctggcc cctcggagca
120
ggcagtctgt ggctctggcc cctccagttc cttgtcacca ggagataggc aatgcagctg
180
atgagaaggg ccccggcagc aagagatcca atgatggtgg ccgccaggat cccagcgttg
240
gtgggcaggt gtgtactggg cagctcctta ttcttttcag ctacctggac ctcagtcttg
300
gccttcatag tccattcaga gttgatggta atggctactt ggtaggtgcc actgtctgta
360
ggctggggcg ggcgagcag catggaacca ttggggaagc ccacgatgtc tcgctgtccc
420
atggcactgc catccctctg aggccgttgt atccccaggg atgt
464

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&lt;210&gt; 3272

&lt;211&gt; 140

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3272

```

Met Gly Gln Arg Asp Ile Val Gly Phe Pro Asn Gly Ser Met Leu Leu
  1      5      10      15
Arg Arg Ala Gln Pro Thr Asp Ser Gly Thr Tyr Gln Val Ala Ile Thr
      20      25      30
Ile Asn Ser Glu Trp Thr Met Lys Ala Lys Thr Glu Val Gln Val Ala
      35      40      45
Glu Lys Asn Lys Glu Leu Pro Ser Thr His Leu Pro Thr Asn Ala Gly

```

|   |                     |                         |     |    |  |
|---|---------------------|-------------------------|-----|----|--|
| 50  |                     | 55                      |     | 60 |  |
| Ile Leu Ala Ala Thr   | Ile Ile Gly Ser Leu | Ala Ala Gly Ala Leu Leu |     |    |  |
| 65  | 70                  | 75                      | 80  |    |  |
| Ile Ser Cys Ile Ala Tyr Leu Leu Val Thr Arg Asn Trp Arg Gly Gln |                     |                         |     |    |  |
|   | 85                  | 90                      | 95  |    |  |
| Ser His Arg Leu Pro Ala Pro Arg Gly Gln Gly Ser Leu Ser Ile Leu |                     |                         |     |    |  |
|   | 100                 | 105                     | 110 |    |  |
| Cys Ser Ala Val Ser Pro Val Pro Ser Val Thr Pro Ser Thr Trp Met |                     |                         |     |    |  |
|   | 115                 | 120                     | 125 |    |  |
| Ala Thr Thr Glu Lys Pro Glu Leu Gly Pro Ala His                 |                     |                         |     |    |  |
|   | 130                 | 135                     | 140 |    |  |

&lt;210&gt; 3273

&lt;211&gt; 387

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3273

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ngcgcgccag ggatggaaaa ctttattctg tatgaggaga tcggaagagg aagcaagact
60
gttgctctata aagggcgacg gaaggggaaca atcaattttg tagccattct ttgtactgat
120
aagtgcagaa ggctgaaat aaccaactgg gtccgtctca cccgtgaaat aaaacacaag
180
aatattgtaa cttttcatga atggtatgaa acaagcaacc acctctggct agtgggtggaa
240
ctccgcacag gtgggttcctt aaaaacagtt attgctcaag atgaaaacct cccagaagat
300
gttgtagagag aatttggaat tgacctgatt agtggattac atcatcttca taaacttggc
360
attctctttg tgacatttct cctagga
387

```

&lt;210&gt; 3274

&lt;211&gt; 129

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3274

|   |     |
|---|-----|
| Xaa Ala Pro Gly Met Glu Asn Phe Ile Leu Tyr Glu Glu Ile Gly Arg |     |
| 1   | 5   |
| Gly Ser Lys Thr Val Val Tyr Lys Gly Arg Arg Lys Gly Thr Ile Asn |     |
|   | 20  |
| Phe Val Ala Ile Leu Cys Thr Asp Lys Cys Arg Arg Pro Glu Ile Thr |     |
|   | 35  |
| Asn Trp Val Arg Leu Thr Arg Glu Ile Lys His Lys Asn Ile Val Thr |     |
|   | 50  |
| Phe His Glu Trp Tyr Glu Thr Ser Asn His Leu Trp Leu Val Val Glu |     |
| 65  | 70  |
| Leu Arg Thr Gly Gly Ser Leu Lys Thr Val Ile Ala Gln Asp Glu Asn |     |
|   | 85  |
| Leu Pro Glu Asp Val Val Arg Glu Phe Gly Ile Asp Leu Ile Ser Gly |     |
|   | 100 |
| Leu His His Leu His Lys Leu Gly Ile Leu Phe Val Thr Phe Leu Leu |     |

|             | 115          | 120         | 125         |
|-------------|--------------|-------------|-------------|
| Gly         |              |             |             |
| <210>       | 3275         |             |             |
| <211>       | 1266         |             |             |
| <212>       | DNA          |             |             |
| <213>       | Homo sapiens |             |             |
| <400>       | 3275         |             |             |
| tttttttttaa | tcagttaaga   | ttcttggtga  | cacaaattgt  |
| 60          | tttacatcaa   | ctgttggtat  |             |
| agaacacatg  | aaaggaatac   | atggggaaga  | aataaagtag  |
| 120         | aaccaagag    | ttcttttaag  |             |
| ttttctttta  | tagagacatg   | aataacagat  | acactgaagt  |
| 180         | ataaacaaaa   | attggcctga  |             |
| agcgtccggt  | ggccggctta   | gttaggagct  | atggctaaac  |
| 240         | atcatcctga   | tttgatcttt  |             |
| tgccgcaagc  | aggctggtgt   | tgccatcgga  | agactgtgtg  |
| 300         | aaaaatgtga   | tggcaagtgt  |             |
| gtgatttggtg | actcctatgt   | gcgtccctgc  | actctgggtgc |
| 360         | gcatatgtga   | tgagtgtaac  |             |
| tatggatctt  | accaggggcg   | ctgtgtgatc  | tgtggaggac  |
| 420         | ctgggggtctc  | tgatgcctat  |             |
| tattgtaagg  | agtgacccat   | ccaggagaag  | gacagagatg  |
| 480         | gctgcccaa    | gattgtcaat  |             |
| ctggggagct  | ctaagacaga   | cctcttctat  | gaacgcaaaa  |
| 540         | aatacggctt   | caagaagagg  |             |
| tgattggtgg  | gtggccccctt  | cctcccccca  | acatcagtct  |
| 600         | gctgcagctg   | ccagaaaaca  |             |
| tgcttactac  | taccagcaga   | aaggggagcag | agcccagagc  |
| 660         | atcaccagga   | gtgcctgcta  |             |
| gtgtactggc  | agcttgccac   | cccctcctct  | cccttcaccc  |
| 720         | agacacgtgg   | tagggatgga  |             |
| aaaggattct  | tcacagagca   | ctctggcaca  | ccatatcgga  |
| 780         | gaaaaattga   | tagattagtt  |             |
| aatgggtttt  | cttgaattcg   | agaagcatag  | atctgttctc  |
| 840         | catattggta   | tgttctccct  |             |
| caaccaagat  | cttctaaaaa   | gaaataatat  | tttagtcttc  |
| 900         | tgcttgagga   | actgactgtg  |             |
| aagcgacgcc  | cagtgaaaaa   | catgatcttg  | cagcagctct  |
| 960         | ggtggcagct   | gtccttgagg  |             |
| aaccttttgt  | gtgtgggtggg  | aagctatcag  | aacaagaaat  |
| 1020        | gtaggcattt   | cccgtttttt  |             |
| ttgggggggg  | ggtggggggg   | cagggctctg  | ccctcttgaa  |
| 1080        | aggcatttac   | ttgtttaaca  |             |
| cttgccagc   | tacagtgggg   | tacagttagct | ggctattcac  |
| 1140        | aggcatcatc   | atagcccact  |             |
| agtctcatat  | tatttttctt   | ttgagaaatt  | ggaaactctt  |
| 1200        | tctgttgcta   | ttatattaat  |             |
| aaagtgtgtg  | tttattttct   | ggtaaaaaaa  | aaaaaaaaaa  |
| 1260        | aaaaaaaaaa   |             |             |
| aaaaaa      |              |             |             |
| 1266        |              |             |             |

<210> 3276  
 <211> 110  
 <212> PRT  
 <213> Homo sapiens

<400> 3276  
 Met Ala Lys His His Pro Asp Leu Ile Phe Cys Arg Lys Gln Ala Gly  
 1 5 10 15  
 Val Ala Ile Gly Arg Leu Cys Glu Lys Cys Asp Gly Lys Cys Val Ile  
 20 25 30  
 Cys Asp Ser Tyr Val Arg Pro Cys Thr Leu Val Arg Ile Cys Asp Glu  
 35 40 45  
 Cys Asn Tyr Gly Ser Tyr Gln Gly Arg Cys Val Ile Cys Gly Gly Pro  
 50 55 60  
 Gly Val Ser Asp Ala Tyr Tyr Cys Lys Glu Cys Thr Ile Gln Glu Lys  
 65 70 75 80  
 Asp Arg Asp Gly Cys Pro Lys Ile Val Asn Leu Gly Ser Ser Lys Thr  
 85 90 95  
 Asp Leu Phe Tyr Glu Arg Lys Lys Tyr Gly Phe Lys Lys Arg  
 100 105 110

<210> 3277  
 <211> 1435  
 <212> DNA  
 <213> Homo sapiens

<400> 3277  
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 60  
 ctgcgtggga ggcagaaaga gctaattgagg ccacgcttgt ccctcggcca ccgtcccacc  
 120  
 cagacttcgg tctccttaaa atgttcatgc gtaagtgcgt ggcagaagcg gctcaagcgc  
 180  
 actcgtgcgt cattgctgtc agggccgagg gagcgggtgca aggccgccgc gtgacgtcag  
 240  
 gacgccgcgg tcaggacgtc gaagccaaag aagaccagag ccagccgggt ggcacagcgg  
 300  
 tgtcgtggcc gtgttgctga tcgcctgggt ggttggtggc gtgtccctgc agcgaaggat  
 360  
 cctggttggc agtgaaaaag cagtctggct cccgaggtcc accccttata cccaaggctc  
 420  
 cagatggcgg ccaacgtggg tgatcaacgt agcacagatt ggtcttctca gtacagcatg  
 480  
 gtggctgggg caggccgaga gaatggcatg gagacgccga tgcacgagaa cccggagtgg  
 540  
 gagaaggccc gtcaggccct ggccagcatc agcaagtcag gagctgccgg cggtctctgc  
 600  
 aagtcacgca gcaatgggccc tgtggccagt gcaagtacgt gtcccaggca gaagcctcag  
 660  
 ctttcagca gcagcagtac taccagtggg accagcagta caactatgcc taccctaca  
 720  
 gctactacta tcccatgagc atgtaccaga gctatggctc cccttcccag tatgggatgg  
 780

ccggctccta tggctagcca cccccagca gccatccgca cccaacacc aagggactct  
 840  
 gaaccagccc ccagtccccg gcatggatga gagcatgtcc taccaggctc cccctcagca  
 900  
 gctgccgtcg gctcagcccc ctcagccctc aaatccccca catggggctc acacgctgaa  
 960  
 cagtggccct cagcctggga cagctccagc cacacagcan ncagccaggc ggggcccgcc  
 1020  
 acgggccagg cctatggggc acacacctac accgaacctg ccaagcccaa gaagggccaa  
 1080  
 cagctgtgga accgcatgaa acccgcccct gggactggag gttcaagtcc aacatccaga  
 1140  
 agcgaccctt tgctgttacc acccagagct ttggctccaa cgcagagggc cagcacagtg  
 1200  
 gttttggccc ccagcccaac cctgagaaag ttcagaacca cagcgggtcc tctgcccggg  
 1260  
 ggaacctgtc tgggaagccc gatgactggc cccaggacat gaaagagtat gtggagcgct  
 1320  
 gcttcaccgc ctgtgagtcg gaggaggaca aggaccgcac ggaaaagctg ctcaaggagg  
 1380  
 tgctgcaggc gcggtgcag gacggctcgg cctataccat tgactggagc cggga  
 1435

<210> 3278

<211> 104

<212> PRT

<213> Homo sapiens

<400> 3278

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Ala | Asn | Val | Gly | Asp | Gln | Arg | Ser | Thr | Asp | Trp | Ser | Ser | Gln |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Tyr | Ser | Met | Val | Ala | Gly | Ala | Gly | Arg | Glu | Asn | Gly | Met | Glu | Thr | Pro |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Met | His | Glu | Asn | Pro | Glu | Trp | Glu | Lys | Ala | Arg | Gln | Ala | Leu | Ala | Ser |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Ile | Ser | Lys | Ser | Gly | Ala | Ala | Gly | Gly | Ser | Ala | Lys | Ser | Ser | Ser | Asn |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Gly | Pro | Val | Ala | Ser | Ala | Ser | Thr | Cys | Pro | Arg | Gln | Lys | Pro | Gln | Leu |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Cys | Ser | Ser | Ser | Ser | Thr | Thr | Ser | Gly | Thr | Ser | Ser | Thr | Thr | Met | Pro |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Thr | Pro | Thr | Ala | Thr | Thr | Ile | Pro |     |     |     |     |     |     |     |     |
|     |     |     |     | 100 |     |     |     |     |     |     |     |     |     |     |     |

<210> 3279

<211> 1130

<212> DNA

<213> Homo sapiens

<400> 3279

nngcgcgcc accgcgcgc atccatgttc gacaccacac cccactctgg ccggagcacg  
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 ccaagcagct ccccatcgct ccggaaacgg ctgcagctcc tgcccccaag ccggccccca  
 120

cctgagccag aaccaggcac catggtggag aagggatcag atagctcctc agagaagggg  
 180  
 ggggtgectg ggacccccag caccagagc ctaggcagcc ggaacttcat ccgcaacagc  
 240  
 aagaagatgc agagctggta cagtatgctg agccccactt ataagcagcg taatgaggac  
 300  
 ttccggaaac tggtcagcaa actccccgaa gcagaacgcc tcattgtgga ttactcctgc  
 360  
 gccctgcagc gtgagatcct gctccagggc cgctctacc tctctgagaa ctggatctgc  
 420  
 ttctacagca acatcttccg ctgggagacc acgatctcca tccagctgaa ggaagtgaca  
 480  
 tgtctgaaga aggaaaagac ggccaagctg atccccaacg ccatccagat ctgcacggag  
 540  
 agcgagaagc atttcttcac ttcctttggg gcccgtagc gctgcttct cctcatcttc  
 600  
 cgctctggc agaatgcaact gcttgaaaag acgctgagtc cccgcgagct ctggcacctg  
 660  
 gtgcatcagt gctacggctc agagctgggc ctcaccagtg aggatgagga ctatgtctcc  
 720  
 cccttgacgc tgaacggtct ggggaccccc aaggaagtgg gagatgtgat cgccctgagc  
 780  
 gacatcacct cctcgggggc agctgaccgc agccaggagc caagcccagt gggttcgcgc  
 840  
 cgtggccatg tcacgcccac cctttcccga gccagcagcg acgcagacca tggggcagag  
 900  
 gaggacaagg aggagcaggt agacagccag ccagacgcct cctccagcca gacagtgacc  
 960  
 ccggtggctg aacccccgag cacagagccc acccagcctg acgggcccac caccctgggc  
 1020  
 cccttggatc tgctgcccag tgaggagcta ttgacagaca caagtaactc ctcttcatcc  
 1080  
 actggggagg aagcggactt ggctgcctg cttcccagcc tctccggccg  
 1130

<210> 3280

<211> 376

<212> PRT

<213> Homo sapiens

<400> 3280

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Arg | Ala | His | Arg | Ala | Ala | Ser | Met | Phe | Asp | Thr | Thr | Pro | His | Ser |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Gly | Arg | Ser | Thr | Pro | Ser | Ser | Ser | Pro | Ser | Leu | Arg | Lys | Arg | Leu | Gln |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Leu | Pro | Pro | Ser | Arg | Pro | Pro | Pro | Glu | Pro | Glu | Pro | Gly | Thr | Met |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Val | Glu | Lys | Gly | Ser | Asp | Ser | Ser | Ser | Glu | Lys | Gly | Gly | Val | Pro | Gly |
|     |     |     | 50  |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Thr | Pro | Ser | Thr | Gln | Ser | Leu | Gly | Ser | Arg | Asn | Phe | Ile | Arg | Asn | Ser |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |     |
| Lys | Lys | Met | Gln | Ser | Trp | Tyr | Ser | Met | Leu | Ser | Pro | Thr | Tyr | Lys | Gln |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Arg | Asn | Glu | Asp | Phe | Arg | Lys | Leu | Phe | Ser | Lys | Leu | Pro | Glu | Ala | Glu |

|   |     |     |
|---|-----|-----|
| 100   | 105 | 110 |
| Arg Leu Ile Val Asp Tyr Ser Cys Ala Leu Gln Arg Glu Ile Leu Leu |     |     |
| 115   | 120 | 125 |
| Gln Gly Arg Leu Tyr Leu Ser Glu Asn Trp Ile Cys Phe Tyr Ser Asn |     |     |
| 130   | 135 | 140 |
| Ile Phe Arg Trp Glu Thr Thr Ile Ser Ile Gln Leu Lys Glu Val Thr |     |     |
| 145   | 150 | 155 |
| Cys Leu Lys Lys Glu Lys Thr Ala Lys Leu Ile Pro Asn Ala Ile Gln |     |     |
| 165   | 170 | 175 |
| Ile Cys Thr Glu Ser Glu Lys His Phe Phe Thr Ser Phe Gly Ala Arg |     |     |
| 180   | 185 | 190 |
| Asp Arg Cys Phe Leu Leu Ile Phe Arg Leu Trp Gln Asn Ala Leu Leu |     |     |
| 195   | 200 | 205 |
| Glu Lys Thr Leu Ser Pro Arg Glu Leu Trp His Leu Val His Gln Cys |     |     |
| 210   | 215 | 220 |
| Tyr Gly Ser Glu Leu Gly Leu Thr Ser Glu Asp Glu Asp Tyr Val Ser |     |     |
| 225   | 230 | 235 |
| Pro Leu Gln Leu Asn Gly Leu Gly Thr Pro Lys Glu Val Gly Asp Val |     |     |
| 245   | 250 | 255 |
| Ile Ala Leu Ser Asp Ile Thr Ser Ser Gly Ala Ala Asp Arg Ser Gln |     |     |
| 260   | 265 | 270 |
| Glu Pro Ser Pro Val Gly Ser Arg Arg Gly His Val Thr Pro Asn Leu |     |     |
| 275   | 280 | 285 |
| Ser Arg Ala Ser Ser Asp Ala Asp His Gly Ala Glu Glu Asp Lys Glu |     |     |
| 290   | 295 | 300 |
| Glu Gln Val Asp Ser Gln Pro Asp Ala Ser Ser Ser Gln Thr Val Thr |     |     |
| 305   | 310 | 315 |
| Pro Val Ala Glu Pro Pro Ser Thr Glu Pro Thr Gln Pro Asp Gly Pro |     |     |
| 325   | 330 | 335 |
| Thr Thr Leu Gly Pro Leu Asp Leu Leu Pro Ser Glu Glu Leu Leu Thr |     |     |
| 340   | 345 | 350 |
| Asp Thr Ser Asn Ser Ser Ser Ser Thr Gly Glu Glu Ala Asp Leu Ala |     |     |
| 355   | 360 | 365 |
| Ala Leu Leu Pro Asp Leu Ser Gly                                 |     |     |
| 370   | 375 |     |

&lt;210&gt; 3281

&lt;211&gt; 842

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3281

gaattctgcc ttgccgtgtg cctcattggc caaaggaaag caacagagtc tgcagccagg  
60

gcaggaccgc caggaggggc ctggaccgcg ggggctcctg gcagcgctgt gcctttctga  
120

ggcaaggagg tagagccagc ggctgaggac ctgtcagggc cagtcccagc tctgcagctt  
180

gctgtgtgac ctggcacaca tectctccct gcctccctca gtctcttccc ctgcaagacg  
240

gggtcctgac acggatctca tgggattgct ctgagggcca ggcagtccca ggctcaacca  
300

ctggttcaca aagtgtgttg ttccaggaa gaacagatgg gggcgctga gggcaaaggg  
360

cctgagtgtg ggtcgaggat atgccggctg ctcgctcagg ggctggggtt tcattctgtg  
 420  
 tgtcttgaca ggggtgtgaca cttggcacca cactgttccc tgtecccttca tggatgtggc  
 480  
 ccacatgatg ttcctttcct cttgcaaaag aagttgctgg aaggcccact gtccagcagc  
 540  
 ccccagggtg cctggggccac ggtgcctttg tgggcccagc tacaaggagg acttgccaggc  
 600  
 tcgtgtctgg gacagatact ggcgccaggg ccaagtgaag cccgggattg gtgggcatct  
 660  
 ctagtgtgtc cctgagagag ggtggagggt gctgacaggc cttggcgctt tcattctgtca  
 720  
 actccagagg cccttgtgct tgcagcaggg aggtcaaggc cagggcgctc gaccccgccc  
 780  
 gctcctccac actgagcctc ctgcacgtgc tcacaggtag agaagcggcg ggtcaatctg  
 840  
 tc  
 842

<210> 3282

<211> 146

<212> PRT

<213> Homo sapiens

<400> 3282

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Pro | Thr | Asn | Pro | Gly | Leu | His | Leu | Ala | Leu | Ala | Pro | Val | Ser | Val |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Pro | Asp | Thr | Ser | Leu | Gln | Val | Leu | Leu | Val | Ala | Gly | Pro | Thr | Lys | Ala |
|     | 20  |     |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Pro | Trp | Pro | Arg | Gln | Pro | Gly | Gly | Cys | Trp | Thr | Val | Gly | Leu | Pro | Ala |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Thr | Ser | Phe | Ala | Arg | Gly | Lys | Glu | His | His | Val | Gly | His | Ile | His | Glu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gly | Thr | Gly | Asn | Ser | Val | Val | Pro | Ser | Val | Thr | Pro | Cys | Gln | Asp | Thr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Gln | Asp | Glu | Asn | Pro | Ala | Pro | Glu | Arg | Ala | Ala | Gly | Ile | Ser | Ser | Thr |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| His | Thr | Gln | Ala | Leu | Cys | Pro | Gln | Ala | Pro | Pro | Ser | Val | Leu | Pro | Gly |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Asn | Asn | Thr | Leu | Cys | Glu | Pro | Val | Val | Glu | Pro | Gly | Thr | Ala | Trp | Ala |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ser | Glu | Gln | Ser | His | Glu | Ile | Arg | Val | Arg | Thr | Pro | Ser | Cys | Arg | Gly |
|     | 130 |     |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |
| Arg | Asp |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 145 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 3283

<211> 3268

<212> DNA

<213> Homo sapiens

<400> 3283

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120  
gcggagaacc taccgccagt cctcatggag cacaaggcca ccaccatcca gaagcacgtg  
180  
cggggctgga tggcacgcag gcacttccag cggctgcggg atgcagccat tgtcatccag  
240  
tgtgccttcc ggatgctcaa ggccaggcgg gagctgaagg ccctcaggat tgaggcccg  
300  
tcagcagagc atctgaaacg tctcaacgtg ggcatggaga acaagggtgg ccagctgcag  
360  
cggaagatcg atgagcagaa caaagagttc aagacacttt cagagcagtt gtccgtgacc  
420  
acctcaacat acaccatgga ggtagagcgg ctgaagaagg agctggtgca ctaccagcag  
480  
agcccagggtg aggacaccag cctcaggctg caggaggagg tggagagcct gcgcacagag  
540  
ctgcagaggg ccactcggga gcgcaagatc ttggaggacg cccacagcag ggagaaagat  
600  
gagctgagga agcagagttg agacctggag caagaaaatg ctctcttgaa agatgagaaa  
660  
gaacagctca acaaccaa at cctgtgccag tctaaagatg aatttgcca gaactctgtg  
720  
aaggaaaatc tctcatgaa gaaagaactg gaggaggagc gatcccggtg ccagaacctt  
780  
gtgaaggaat attcacagtt ggagcagaga tacgacaacc ttcgggatga aatgaccatc  
840  
ataaagcaaa ctccagggtca taggcggaac ccatcaaacc aaagtagctt agaactctgac  
900  
tccaattacc cctccatctc cacatctgag atcggagaca ctgaggatgc cctccagcag  
960  
gtggaggaaa ttggcctgga gaaggcagcc atggacatga cggctcttct gaagctgcag  
1020  
aagagagtac gggagctgga gcaggagagg aaaaagctgc aagtgcagct ggagaagaga  
1080  
gaacagcagg acagcaagaa agtccaggcg gaaccaccac agactgacat agatttgga  
1140  
ccgaatgcag atctggccta caatagtctg aagaggcaag agctggagtc agagaacaaa  
1200  
aagctgaaga atgacctgaa tgagctgagg aaagccgtgg ccgaccaagc cagcagaat  
1260  
aactccagcc acggctcccc agatagctac agcctcctgc tgaaccagct caagctggcc  
1320  
cacgaggagc tcgaggtgcg caaggaggag gtgctcatcc tcaggacca gatcgtgagc  
1380  
gccgaccagc ggcgactcgc cggcaggaac gcggagccga acattaatgc cagatcaagt  
1440  
tggcctaaca gtgaaaggca tgttgaccag gaggatgcc a ttgaggccta tcacggggtc  
1500  
tgccagacaa acaggctgct ggaggctcag ctgcaggccc agagcctgga gcatgaggag  
1560  
gaggtggagc atctcaaggc tcagctcgag gccctgaagg aggagatgga caaacagcag  
1620  
cagaccttct gccagacgct actgctctcc ccagaggccc aggtggaatt cggcgttcag  
1680

caggaaatat cccggtgac caacgagaat ctggacctta aagaactggt agaaaagctg  
 1740  
 gaaaagaatg agaggaagct caaaaagcaa ctgaagattt acatgaagaa agcccaggac  
 1800  
 ctagaagctg cccaggcatt ggcccagagt gagaggaagc gccatgagct caacaggcag  
 1860  
 gtcacggtcc agcggaaaga gaaggatttc cagggcatgc tggagtacca caaagaggac  
 1920  
 gaggccctcc tcattccgaa cctggtgaca gacttgaagc cccagatgct gtcgggcaca  
 1980  
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 2400  
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 3268

&lt;210&gt; 3284

&lt;211&gt; 1012

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3284

```

Xaa Ile Arg Ala Ala Val Val Leu Gln Lys His Tyr Arg Met Gln Arg
 1           5           10           15
Ala Arg Gln Ala Tyr Gln Arg Val Arg Arg Ala Ala Val Val Ile Gln
 20           25           30
Ala Phe Thr Arg Xaa His Val Cys Ala Glu Asn Leu Pro Val Leu
 35           40           45
Met Glu His Lys Ala Thr Thr Ile Gln Lys His Val Arg Gly Trp Met
 50           55           60
Ala Arg Arg His Phe Gln Arg Leu Arg Asp Ala Ala Ile Val Ile Gln
 65           70           75           80
Cys Ala Phe Arg Met Leu Lys Ala Arg Arg Glu Leu Lys Ala Leu Arg
 85           90           95
Ile Glu Ala Arg Ser Ala Glu His Leu Lys Arg Leu Asn Val Gly Met
100           105           110
Glu Asn Lys Val Val Gln Leu Gln Arg Lys Ile Asp Glu Gln Asn Lys
115           120           125
Glu Phe Lys Thr Leu Ser Glu Gln Leu Ser Val Thr Thr Ser Thr Tyr
130           135           140
Thr Met Glu Val Glu Arg Leu Lys Lys Glu Leu Val His Tyr Gln Gln
145           150           155           160
Ser Pro Gly Glu Asp Thr Ser Leu Arg Leu Gln Glu Glu Val Glu Ser
165           170           175
Leu Arg Thr Glu Leu Gln Arg Ala His Ser Glu Arg Lys Ile Leu Glu
180           185           190
Asp Ala His Ser Arg Glu Lys Asp Glu Leu Arg Lys Arg Val Ala Asp
195           200           205
Leu Glu Gln Glu Asn Ala Leu Leu Lys Asp Glu Lys Glu Gln Leu Asn
210           215           220
Asn Gln Ile Leu Cys Gln Ser Lys Asp Glu Phe Ala Gln Asn Ser Val
225           230           235           240
Lys Glu Asn Leu Leu Met Lys Lys Glu Leu Glu Glu Glu Arg Ser Arg
245           250           255
Tyr Gln Asn Leu Val Lys Glu Tyr Ser Gln Leu Glu Gln Arg Tyr Asp
260           265           270
Asn Leu Arg Asp Glu Met Thr Ile Lys Lys Gln Thr Pro Gly His Arg
275           280           285
Arg Asn Pro Ser Asn Gln Ser Ser Leu Glu Ser Asp Ser Asn Tyr Pro
290           295           300
Ser Ile Ser Thr Ser Glu Ile Gly Asp Thr Glu Asp Ala Leu Gln Gln
305           310           315           320
Val Glu Glu Ile Gly Leu Glu Lys Ala Ala Met Asp Met Thr Val Phe
325           330           335
Leu Lys Leu Gln Lys Arg Val Arg Glu Leu Glu Gln Glu Arg Lys Lys
340           345           350
Leu Gln Val Gln Leu Glu Lys Arg Glu Gln Gln Asp Ser Lys Lys Val
355           360           365
Gln Ala Glu Pro Pro Gln Thr Asp Ile Asp Leu Asp Pro Asn Ala Asp

```

|                     |                     |                         |
|---------------------|---------------------|-------------------------|
| 370                 | 375                 | 380                     |
| Leu Ala Tyr Asn Ser | Leu Lys Arg Gln Glu | Leu Glu Ser Glu Asn Lys |
| 385                 | 390                 | 395                     |
| Lys Leu Lys Asn Asp | Leu Asn Glu Leu Arg | Lys Ala Val Ala Asp Gln |
| 405                 | 410                 | 415                     |
| Ala Thr Gln Asn Asn | Ser Ser His Gly Ser | Pro Asp Ser Tyr Ser Leu |
| 420                 | 425                 | 430                     |
| Leu Leu Asn Gln Leu | Lys Leu Ala His Glu | Glu Leu Glu Val Arg Lys |
| 435                 | 440                 | 445                     |
| Glu Glu Val Leu Ile | Leu Arg Thr Gln Ile | Val Ser Ala Asp Gln Arg |
| 450                 | 455                 | 460                     |
| Arg Leu Ala Gly Arg | Asn Ala Glu Pro Asn | Ile Asn Ala Arg Ser Ser |
| 465                 | 470                 | 475                     |
| Trp Pro Asn Ser Glu | Arg His Val Asp Gln | Glu Asp Ala Ile Glu Ala |
| 485                 | 490                 | 495                     |
| Tyr His Gly Val Cys | Gln Thr Asn Arg Leu | Leu Glu Ala Gln Leu Gln |
| 500                 | 505                 | 510                     |
| Ala Gln Ser Leu Glu | His Glu Glu Glu Val | Glu His Leu Lys Ala Gln |
| 515                 | 520                 | 525                     |
| Leu Glu Ala Leu Lys | Glu Glu Met Asp Lys | Gln Gln Gln Thr Phe Cys |
| 530                 | 535                 | 540                     |
| Gln Thr Leu Leu Leu | Ser Pro Glu Ala Gln | Val Glu Phe Gly Val Gln |
| 545                 | 550                 | 555                     |
| Gln Glu Ile Ser Arg | Leu Thr Asn Glu Asn | Leu Asp Leu Lys Glu Leu |
| 565                 | 570                 | 575                     |
| Val Glu Lys Leu Glu | Lys Asn Glu Arg Lys | Leu Lys Lys Gln Leu Lys |
| 580                 | 585                 | 590                     |
| Ile Tyr Met Lys Lys | Ala Gln Asp Leu Glu | Ala Ala Gln Ala Leu Ala |
| 595                 | 600                 | 605                     |
| Gln Ser Glu Arg Lys | Arg His Glu Leu Asn | Arg Gln Val Thr Val Gln |
| 610                 | 615                 | 620                     |
| Arg Lys Glu Lys Asp | Phe Gln Gly Met Leu | Glu Tyr His Lys Glu Asp |
| 625                 | 630                 | 635                     |
| Glu Ala Leu Leu Ile | Arg Asn Leu Val Thr | Asp Leu Lys Pro Gln Met |
| 645                 | 650                 | 655                     |
| Leu Ser Gly Thr Val | Pro Cys Leu Pro Ala | Tyr Ile Leu Tyr Met Cys |
| 660                 | 665                 | 670                     |
| Ile Arg His Ala Asp | Tyr Thr Asn Asp Asp | Leu Lys Val His Ser Leu |
| 675                 | 680                 | 685                     |
| Leu Thr Ser Thr Ile | Asn Gly Ile Lys Lys | Val Leu Lys Lys His Asn |
| 690                 | 695                 | 700                     |
| Asp Asp Phe Glu Met | Thr Ser Phe Trp Leu | Ser Asn Thr Cys Arg Leu |
| 705                 | 710                 | 715                     |
| Leu His Cys Leu Lys | Gln Tyr Ser Gly Asp | Glu Gly Phe Met Thr Gln |
| 725                 | 730                 | 735                     |
| Asn Thr Ala Lys Gln | Asn Glu His Cys Leu | Lys Asn Phe Asp Leu Thr |
| 740                 | 745                 | 750                     |
| Glu Tyr Arg Gln Val | Leu Ser Asp Leu Ser | Ile Gln Ile Tyr Gln Gln |
| 755                 | 760                 | 765                     |
| Leu Ile Lys Ile Ala | Glu Gly Val Leu Gln | Pro Met Ile Val Ser Ala |
| 770                 | 775                 | 780                     |
| Met Leu Glu Asn Glu | Ser Ile Gln Gly Leu | Ser Gly Val Lys Pro Thr |
| 785                 | 790                 | 795                     |
| Gly Tyr Arg Lys Arg | Ser Ser Ser Met Ala | Asp Gly Asp Asn Ser Tyr |

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<210> 3285
<211> 1518
<212> DNA
<213> Homo sapiens
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2478

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 720  
 gaaacatcgt tagcaaggag ctactgcttt cctttcttaa acatgttttg ggcataacca  
 780  
 cactctggaa gtggtgaact gttacacatt tgggtgtgtg gtacataaca tcaaaaacta  
 840  
 ctgtgtgaaa cttgagaatg tctgattaaa gatttcaatg tatatctaaa aactaactca  
 900  
 aatcgttgac cagcactttc ccagtatcat aacaatgcgg ctgaccctct tctgccttca  
 960  
 ctttacaccc catcatagca cattatattgt gcacaactag tgaggctctgt gcggctcatc  
 1020  
 atccccataa ccaagtgcgt ctgtgttgag tcatatcatt ctgtgctggt tttagaagtc  
 1080  
 accataggaa acatgaagtc acatcctggt caaaaaactg tccattttctc aaaaacagag  
 1140  
 aaaaacctga gatacgaggc agcaactagc gacacttaca ggaagggaaa gaacaatgac  
 1200  
 aacacccgcc cagccccacc cccaaaaagc tgctgttggtg aattaaggct tcaaaagagg  
 1260  
 acccacactg tagctgataa aactcaagcc aggaggatgt ttgaaagcca atctgcacta  
 1320  
 tcacttggtc cagtgcctc ctatgttcag ctgccaggac cgattccata cagtgattgt  
 1380  
 aggttgagga ctgaggacgc ccctttgctc tcgctccatt ttgatttgct ttttccactg  
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 1500  
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 1518

<210> 3286

<211> 142

<212> PRT

<213> Homo sapiens

<400> 3286

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Ser | His | Pro | Gly | Gln | Lys | Thr | Val | His | Phe | Ser | Lys | Thr | Glu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Lys | Asn | Leu | Arg | Tyr | Glu | Ala | Ala | Thr | Ser | Asp | Thr | Tyr | Arg | Lys | Gly |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Lys | Asn | Asn | Asp | Asn | Thr | Arg | Pro | Ala | Pro | Pro | Pro | Lys | Ser | Cys | Cys |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Cys | Glu | Leu | Arg | Leu | Gln | Lys | Arg | Thr | His | Thr | Val | Ala | Asp | Lys | Thr |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gln | Ala | Arg | Arg | Met | Phe | Glu | Ser | Gln | Ser | Ala | Leu | Ser | Leu | Val | Pro |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Val | Thr | Ser | Tyr | Val | Gln | Leu | Pro | Gly | Pro | Ile | Pro | Tyr | Ser | Asp | Cys |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Arg | Leu | Arg | Thr | Glu | Asp | Ala | Pro | Leu | Leu | Ser | Leu | His | Phe | Asp | Leu |
|     |     |     |     | 100 |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu | Phe | Pro | Leu | Lys | Thr | Arg | Arg | Pro | Ala | Phe | Pro | Lys | Thr | Ala | Trp |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 115 |     | 120 |     | 125 |     |     |     |     |     |     |     |     |
| Pro | Trp | Leu | Cys | Thr | Leu | Phe | Thr | Thr | Asp | Gln | Asn | Ser | Ile |
|     | 130 |     |     |     | 135 |     |     |     |     |     | 140 |     |     |

&lt;210&gt; 3287

&lt;211&gt; 921

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3287

```

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60
gagcgcgcgg cttggcggag tagggggcac ggccagcgca gtcagagctg gcgcctcctc
120
gcgtaagccc aatccgggaa actcgttgcc cctctcctgg gaaaggaacg tccctcccca
180
gggttgcgag tgactcgggc accatcaccg tgtgctgtaa agacctgcca gtgctgcagc
240
tggaatataga gggcgcgga ggcacgctgg gcacgcgccg ctccatcgag gtgtgccgag
300
ggagctcccg agccctttaa gctctccctg tctcgcgtag aggggaataa aaaggtgctt
360
ctgttcaaag aggtcccgca gccgcagcta aatggcaggg ggatgcaggg tggtcggggg
420
tacttgagaga ggccgaagct gaagctacag gactgagggg ctggaaaggg cgcgggcgag
480
acaattccga cctccccag agccctgac ttccttctcc ggacgctgtc ctccctggaa
540
tcagtcatca cctccttccc tttattctac cgtcccaagg gcctgagatt gggcgactcc
600
tggaacttcc tcccgccga actctactgc aagagagtag ctcgcaagt gggcgcggtc
660
gtagggggccc ggaaggtgg aagcgccggg cctggaagag gcgcggggac agggcactcc
720
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780
aggctggagg gggcttgga gccaaagctaa ttggggcgaa tttctatgat tatgattttt
840
ttattaaata gttataaaaa aatagggtat acaatttaaa ggactcttag tttaaaacaa
900
aatctattct gagaactctt c
921

```

&lt;210&gt; 3288

&lt;211&gt; 148

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3288

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Thr | Asp | Ser | Arg | Glu | Asp | Ser | Val | Arg | Arg | Arg | Lys | Ser | Gly | Ala |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Leu | Gly | Arg | Val | Gly | Ile | Val | Ser | Pro | Ala | Pro | Phe | Pro | Ala | Pro | Gln |
|     |     |     | 20  |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Ser | Cys | Ser | Phe | Ser | Phe | Gly | Leu | Ser | Lys | Tyr | Pro | Gly | Pro | Pro | Cys |

```

      35              40              45
Ile Pro Leu Pro Phe Ser Cys Gly Cys Gly Ala Ser Leu Asn Arg Ser
      50              55              60
Thr Phe Leu Phe Pro Ser Thr Arg Asp Arg Glu Ser Leu Lys Gly Ser
65              70              75              80
Gly Ala Pro Ser Ala His Leu Asp Gly Ala Gly Asp Ala Gln Arg Arg
      85              90              95
Phe Arg Ala Leu Tyr Phe Gln Leu Gln His Ser Gln Val Phe Thr Ala
      100              105              110
Gln Gly Asp Gly Ala Arg Val Thr Arg Asn Pro Gly Glu Gly Arg Ser
      115              120              125
Phe Pro Arg Arg Gly Ala Thr Ser Phe Pro Asp Trp Ala Tyr Ala Gly
      130              135              140
Gly Arg Gln Leu
145

```

&lt;210&gt; 3289

&lt;211&gt; 554

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3289

```

acgcgtagtg atctgtgcga ggtcacacag caaatctgtg ggaggctagg gttcaaacct
60
cacagcatgg actcttccct gtgtcccggt cctgccttcg cctcctccca gctcttctct
120
cccagcctcc tagcccaata tcagggccgg aggcactgga gaacttcgg ctaaggcagg
180
cctccctccc cattcacaga gccctgccag ggtggctggc aatgggtgaag tccagggcag
240
agatggggac agaggggacg ccttggattc gactctgtgg tgggtggacc acctccctga
300
gaccagcat ccacgtcggg cagcacatgc taccagtc acagaagagg aaacagaggg
360
tccgagagga agggactgtg tccagggcgg gaccagggc cttctgcact gggatcaatga
420
gccaaagcaca tcaccccagc ccttggggag caggagccgg gccttgcagg gtgaggagct
480
gggaaaagca aagctccatg gaaggcaacc gggaatcatc acaaatagga cataactagt
540
ataagctgca attg
554

```

&lt;210&gt; 3290

&lt;211&gt; 129

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3290

```

Met Ile Pro Gly Cys Leu Pro Trp Ser Phe Ala Phe Pro Ser Ser Ser
1              5              10              15
Pro Cys Lys Ala Arg Leu Leu Leu Pro Lys Gly Trp Gly Asp Val Leu
      20              25              30
Gly Ser Leu Thr Gln Cys Arg Arg Ala Trp Val Pro Pro Trp Thr Gln

```

```

          35          40          45
Ser Leu Pro Leu Gly Ala Ser Val Ser Ser Ser Val Asp Trp Val Ala
   50          55          60
Cys Ala Ala Arg Arg Gly Cys Leu Val Ser Gly Arg Trp Ser Thr His
65          70          75          80
His Arg Val Glu Ser Lys Ala Ser Pro Leu Ser Pro Ser Leu Pro Trp
          85          90          95
Thr Ser Pro Leu Pro Ala Thr Leu Ala Gly Leu Cys Glu Trp Glu Gly
          100          105          110
Arg Pro Ala Leu Ala Gly Ser Ser Pro Val Pro Pro Ala Leu Ile Leu
          115          120          125
Gly

```

&lt;210&gt; 3291

&lt;211&gt; 1075

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3291

```

nngcntatgg ggtgcgcttt acgcgactgc cgctggagcg cgggtgtgggt ggctgcactt
60
ggctggaggc ccccgcgcggt gccttcgcct gcgcgctgga gcgcgacgcc cgggcccgcg
120
tgggccccctt ctcccgccac gcctgcgggtg aggctccccg ccccgctctcc taccatagct
180
gcctctgtcc ctccgcaactg gctgttcacc tggttagctg tgcccgtttc tcaaccggga
240
agcgagtctn ggcgctcgacc gctgccgcca cccagttac cccctccac cccgcgctcc
300
cttccctagc ctacatagcc cttggccatg gcccggcctg gtccacctc tgatgtcccg
360
ccccccacag gtggacagac gccttcgnnt gggcctgagc acttgcggcc ggcacatgtc
420
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480
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540
gtgaaggccc cgacgctttc tcttgctctt gggagcggtc gcatgagctg cgcgtcctca
600
ccgcgcccac gctgcgggcc cagcttgccc aggatggcgt gcagctttgc gccctcgacg
660
acctggactc caagaggcca ggggaggagg tcccctgtga gccactctg gaacccttcc
720
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780
aagaaagggg agccaggatt tagtctggc ccagcccaga gctgggacct ggagcacgat
840
ctgttgactt ccttgggtag gacactgcca cctctgggct caggctcctc tgctccaaa
900
tggcacttag agtttgagca gccttcttgg ctgcaggcag gcctagcctg tggcagcggg
960
ctagggcccc cagagcattt ggtgccctc catgttgcaa tgcaaaccacc ttcaccactg
1020

```

gggcagtggg gagagatggc tatattaata aaataacgtg tgtctttcaa aaaaa  
1075

<210> 3292

<211> 102

<212> PRT

<213> Homo sapiens

<400> 3292

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Xaa | Met | Gly | Cys | Ala | Leu | Arg | Asp | Cys | Arg | Trp | Ser | Ala | Val | Trp |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Val | Ala | Ala | Leu | Gly | Trp | Arg | Pro | Pro | Arg | Val | Pro | Ser | Pro | Ala | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Trp | Ser | Ala | Thr | Pro | Gly | Pro | Pro | Trp | Ala | Pro | Ser | Pro | Ala | Thr | Pro |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ala | Val | Arg | Leu | Pro | Ala | Pro | Ser | Pro | Thr | Ile | Ala | Ala | Ser | Val | Pro |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Pro | His | Trp | Leu | Phe | Thr | Trp | Leu | Ala | Val | Ser | Val | Ser | Gln | Pro | Gly |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ser | Glu | Ser | Xaa | Arg | Arg | Pro | Leu | Pro | Pro | Pro | Gln | Leu | Pro | Pro | Pro |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Thr | Pro | Pro | Ser | Leu | Pro |     |     |     |     |     |     |     |     |     |     |
|     |     |     |     | 100 |     |     |     |     |     |     |     |     |     |     |     |

<210> 3293

<211> 2362

<212> DNA

<213> Homo sapiens

<400> 3293

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120  
gcaggacgcc gacacctacc cctcagcaga cgccggagag aaatgagtag caacaaagag  
180  
cagcggctcag cagtgttcgt gatcctcttt gccctcatca ccctcctcat cctctacagc  
240  
tccaacagtg ccaatgaggt cttccattac ggctccctgc ggggccgtag ccgccgacct  
300  
gtcaacctca agaagtggag catcactgac ggctatgtcc ccattctcgg caacaagaca  
360  
ctgccctctc ggtgccacca gtgtgtgatt gtcagcagct ccagccacct gctgggcacc  
420  
aagctgggcc ctgagatcga gcgggctgag tgtacaatcc gcatgaatga tgcaccacc  
480  
actggctact cagctgatgt gggcaacaag accacctacc gcgtcgtggc ccattccagt  
540  
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600  
atcttctggg ggcccccgag caagatgcag aagccccagg gcagcctcgt gcgtgtgatc  
660  
cagcgagcgg gcctggtggt cccaacatg gaagcatatg ccgtctctcc cggccgcatg  
720

cggaatttg acgacctctt ccggggtgag acgggcaagg acaggagaa gtctcattcg  
780  
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840  
gtctatggca tggtecccc caactactgc agccagcggc cccgcctcca gcgcatgccc  
900  
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<400> 3294

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| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gln | Arg | Gly | His | Met | Ala | Cys | Ser | Arg | Pro | Pro | Ser | Gln | Cys | Glu | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Thr | Ser | Leu | Pro | Pro | Gly | Pro | Pro | Ala | Gly | Arg | Arg | His | Leu | Pro | Leu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ser | Arg | Arg | Arg | Arg | Glu | Met | Ser | Ser | Asn | Lys | Glu | Gln | Arg | Ser | Ala |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Val | Phe | Val | Ile | Leu | Phe | Ala | Leu | Ile | Thr | Ile | Leu | Ile | Leu | Tyr | Ser |
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| Ser | Arg | Arg | Pro | Val | Asn | Leu | Lys | Lys | Trp | Ser | Ile | Thr | Asp | Gly | Tyr |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Val | Pro | Ile | Leu | Gly | Asn | Lys | Thr | Leu | Pro | Ser | Arg | Cys | His | Gln | Cys |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Val | Ile | Val | Ser | Ser | Ser | Ser | His | Leu | Leu | Gly | Thr | Lys | Leu | Gly | Pro |
|     | 130 |     |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |
| Glu | Ile | Glu | Arg | Ala | Glu | Cys | Thr | Ile | Arg | Met | Asn | Asp | Ala | Pro | Thr |
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|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Ala | His | Ser | Ser | Val | Phe | Arg | Val | Leu | Arg | Arg | Pro | Gln | Glu | Phe | Val |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Asn | Arg | Thr | Pro | Glu | Thr | Val | Phe | Ile | Phe | Trp | Gly | Pro | Pro | Ser | Lys |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Met | Gln | Lys | Pro | Gln | Gly | Ser | Leu | Val | Arg | Val | Ile | Gln | Arg | Ala | Gly |
|     |     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Leu | Val | Phe | Pro | Asn | Met | Glu | Ala | Tyr | Ala | Val | Ser | Pro | Gly | Arg | Met |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Arg | Gln | Phe | Asp | Asp | Leu | Phe | Arg | Gly | Glu | Thr | Gly | Lys | Asp | Arg | Glu |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     | 255 |     |     |
| Lys | Ser | His | Ser | Trp | Leu | Ser | Thr | Gly | Trp | Phe | Thr | Met | Val | Ile | Ala |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Val | Glu | Leu | Cys | Asp | His | Val | His | Val | Tyr | Gly | Met | Val | Pro | Pro | Asn |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Tyr | Cys | Ser | Gln | Arg | Pro | Arg | Leu | Gln | Arg | Met | Pro | Tyr | His | Tyr | Tyr |
|     |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Glu | Pro | Lys | Gly | Pro | Asp | Glu | Cys | Val | Thr | Tyr | Ile | Gln | Asn | Glu | His |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |     |
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Thr

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&lt;211&gt; 690

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3295

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&lt;210&gt; 3296

&lt;211&gt; 120

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3296

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| Leu | Trp | Glu | Arg | Pro | Gly | Cys | Cys | Ile | Arg | His | Arg | Ile | Thr | Trp | Glu |
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| Pro | Arg | His | Met | Gly | Pro | Ala | Leu | Arg | Ser | Leu | Gln | Val | Lys | Lys | Gly |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Thr | Glu | His | Ala | Asp | Pro | Leu | Pro | Phe | Pro | Ser | Val | Ser | Leu | Ser | Gly |
|     |     |     | 50  |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
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| Pro | Thr | Trp | Lys | Glu | Cys | Pro | Ile | Cys | Lys | Glu | Arg | Phe | Pro | Ala | Glu |
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115

120

&lt;210&gt; 3297

&lt;211&gt; 3176

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3297

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Ala Arg Ser Lys Gly Ile Asn Leu Lys Leu Leu Pro Asn Gly Phe Thr
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&lt;210&gt; 3302

<211> 323  
 <212> PRT  
 <213> Homo sapiens

<400> 3302

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Lys Asn Phe Pro Phe Pro Val Ser His Pro Ser Val Ala Gly Ala Ser
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<400> 3303

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<210> 3304

<211> 233

<212> PRT

<213> Homo sapiens

<400> 3304

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| Pro | Arg | Lys | Arg | Asp | Phe | Thr | Asn | Glu | Ala | Pro | Pro | Ala | Pro | Leu | Pro |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
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|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asp | Arg | Arg | Ser | Thr | Glu | Pro | Ser | Val | Thr | Pro | Asp | Leu | Leu | Asn | Phe |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Lys | Lys | Gly | Trp | Leu | Thr | Lys | Gln | Tyr | Glu | Asp | Gly | Gln | Trp | Lys | Lys |
|     |     | 50  |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| His | Trp | Phe | Val | Leu | Ala | Asp | Gln | Ser | Leu | Arg | Tyr | Tyr | Arg | Asp | Ser |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Val | Ala | Glu | Glu | Ala | Ala | Asp | Leu | Asp | Gly | Glu | Ile | Asp | Leu | Ser | Ala |
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|     |     |     | 100 |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Ile | His | Thr | Lys | Glu | Gly | Glu | Phe | Thr | Leu | Ser | Ala | Met | Thr | Ser | Gly |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ile | Arg | Arg | Asn | Trp | Ile | Gln | Thr | Ile | Met | Lys | His | Val | His | Pro | Thr |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Thr | Ala | Pro | Asp | Val | Thr | Ser | Ser | Leu | Pro | Glu | Glu | Lys | Asn | Lys | Ser |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Ser | Cys | Ser | Phe | Glu | Thr | Cys | Pro | Arg | Ser | Thr | Glu | Lys | Gln | Glu | Ala |
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| Glu | Leu | Gly | Glu | Pro | Asp | Pro | Glu | Gln | Lys | Arg | Ser | Arg | Ala | Arg | Glu |

|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
|     | 180 |     | 185 |     | 190 |
| Arg | Arg | Arg | Glu | Gly | Arg |
|     |     |     | Ser | Lys | Thr |
|     |     |     | Phe | Asp | Trp |
|     |     |     | Ala | Glu | Phe |
|     |     |     | Arg |     |     |
|     | 195 |     | 200 |     | 205 |
| Pro | Ile | Gln | Gln | Ala | Leu |
|     |     |     | Ala | Gln | Glu |
|     |     |     | Arg | Val | Gly |
|     |     |     | Gly | Val | Gly |
|     |     |     | Pro |     |     |
|     | 210 |     | 215 |     | 220 |
| Ala | Asp | Thr | His | Glu | Pro |
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&lt;210&gt; 3305

&lt;211&gt; 2717

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3305

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|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Pro | Arg | Trp | Glu | Pro | Cys | Leu | Gly | Gln | Gly | Gly | Arg | Val | Asp | Gly | Ser |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Trp | Asp | Cys | Asp | Ile | Gly | Arg | Arg | Gly | Arg | Ser | Pro | Ala | Leu | Ser | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ala | Gly | Trp | Ala | Gly | Ile | His | Leu | Ala | Ala | Ser | Gln | Gly | Leu | Cys | Pro |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ala | Gly | Trp | Ser | Leu | Cys | Cys | Pro | Asn | Gln | Val | Ser | Thr | Phe | Pro | Ala |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Pro | Met | Arg | Arg | Glu | Gly | Gly | Arg | Trp | Trp | Leu | Gly | Trp | Arg |     |     |
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 360  
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<210> 3312

<211> 102

<212> PRT

<213> Homo sapiens

<400> 3312

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Ser | Cys | Ser | Asn | Val | Cys | Gly | Ser | Arg | Gln | Ala | Gln | Ala | Ala |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Ala | Glu | Gly | Gly | Tyr | Gln | Arg | Tyr | Gly | Val | Arg | Ser | Tyr | Leu | His | Gln |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Phe | Tyr | Glu | Asp | Cys | Thr | Ala | Ser | Ile | Trp | Glu | Tyr | Glu | Asp | Asp | Phe |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Gln | Ile | Gln | Arg | Ser | Pro | Asn | Arg | Trp | Ser | Ser | Val | Phe | Trp | Lys | Val |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gly | Leu | Ile | Ser | Gly | Thr | Val | Phe | Val | Ile | Leu | Gly | Leu | Thr | Val | Leu |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Ala | Val | Gly | Phe | Leu | Val | Pro | Pro | Lys | Ile | Glu | Ala | Phe | Gly | Glu | Ala |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Asp | Phe | Val | Val | Val | Asp |     |     |     |     |     |     |     |     |     |     |
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<210> 3313

<211> 1791

<212> DNA

<213> Homo sapiens

<400> 3313

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420  
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600  
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660  
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1791

&lt;210&gt; 3314

&lt;211&gt; 537

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3314

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 35 40 45  
 Gly Gly Gly Arg Xaa Arg Ser Arg Gln Pro Glu Gly Leu Arg Ser His  
 50 55 60  
 His Lys Val Ser Val Ser Pro Val Val His Val Arg Gly Leu Cys Glu  
 65 70 75 80  
 Ser Val Val Glu Ala Asp Leu Val Glu Ala Leu Glu Lys Phe Gly Thr  
 85 90 95  
 Ile Cys Tyr Val Met Met Met Pro Phe Lys Arg Gln Ala Leu Val Glu  
 100 105 110  
 Phe Glu Asn Ile Asp Ser Ala Lys Glu Cys Val Thr Phe Ala Ala Asp  
 115 120 125  
 Glu Pro Val Tyr Ile Ala Gly Gln Gln Ala Phe Phe Asn Tyr Ser Thr  
 130 135 140  
 Ser Lys Arg Ile Thr Arg Pro Gly Asn Thr Asp Asp Pro Ser Gly Gly  
 145 150 155 160  
 Asn Lys Val Leu Leu Leu Ser Ile Gln Asn Pro Leu Tyr Pro Ile Thr  
 165 170 175  
 Val Asp Val Leu Tyr Thr Val Cys Asn Pro Val Gly Lys Val Gln Arg  
 180 185 190  
 Ile Val Ile Phe Lys Arg Asn Gly Ile Gln Ala Met Val Glu Phe Glu  
 195 200 205  
 Ser Val Leu Cys Ala Gln Lys Ala Lys Ala Ala Leu Asn Gly Ala Asp  
 210 215 220  
 Ile Tyr Ala Gly Cys Cys Thr Leu Lys Ile Glu Tyr Ala Arg Pro Thr  
 225 230 235 240  
 Arg Leu Asn Val Ile Arg Asn Asp Asn Asp Ser Trp Asp Tyr Thr Lys  
 245 250 255  
 Pro Tyr Leu Gly Arg Arg Asp Arg Gly Lys Gly Arg Gln Arg Gln Ala  
 260 265 270  
 Ile Leu Gly Glu His Pro Ser Ser Phe Arg His Asp Gly Tyr Gly Ser  
 275 280 285  
 His Gly Pro Leu Leu Pro Leu Pro Ser Arg Tyr Arg Met Gly Ser Arg  
 290 295 300  
 Asp Thr Pro Glu Leu Val Ala Tyr Pro Leu Pro Gln Ala Ser Ser Ser  
 305 310 315 320  
 Tyr Met His Gly Gly Asn Pro Ser Gly Ser Val Val Met Val Ser Gly  
 325 330 335  
 Leu His Gln Leu Lys Met Asn Cys Ser Arg Val Phe Asn Leu Phe Cys  
 340 345 350  
 Leu Tyr Gly Asn Ile Glu Lys Val Lys Phe Met Lys Thr Ile Pro Gly  
 355 360 365  
 Thr Ala Leu Val Glu Met Gly Asp Glu Tyr Ala Val Glu Arg Ala Val  
 370 375 380  
 Thr His Leu Asn Asn Val Lys Leu Phe Gly Lys Arg Leu Asn Val Cys  
 385 390 395 400  
 Val Ser Lys Gln His Ser Val Val Pro Ser Gln Ile Phe Glu Leu Glu

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<212> DNA
<213> Homo sapiens
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180
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240
accagacacc atgcagaggt cgtgaagaag gtgaatgaga tgatcgtcac ggggcagtat
300
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720
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780
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840
gataaatagt attcttggca gccctccacc ccatgtggcg gcggcagggc ccaggggagt
900

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<212> PRT  
<213> Homo sapiens

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Val Pro Lys Thr Ser Leu Ser Ser Pro Pro Trp Pro Glu Val Val Leu  
35 40 45  
Pro Asp Pro Val Glu Glu Thr Arg His His Ala Glu Val Val Lys Lys  
50 55 60  
Val Asn Glu Met Ile Val Thr Gly Gln Tyr Gly Arg Leu Phe Ala Val  
65 70 75 80  
Val His Phe Ala Ser Arg Gln Trp Lys Val Thr Ser Glu Asp Leu Ile  
85 90 95  
Leu Ile Gly Asn Glu Leu Asp Leu Ala Cys Gly Glu Arg Ile Arg Leu  
100 105 110  
Glu Lys Val Leu Leu Val Gly Ala Asp Asn Phe Thr Leu Leu Gly Lys  
115 120 125  
Pro Leu Leu Gly Lys Asp Leu Val Arg Val Glu Ala Thr Val Ile Glu  
130 135 140  
Lys Thr Glu Ser Trp Pro Arg Ile Ile Met Arg Phe Arg Lys Arg Lys  
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<210> 3317  
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<212> DNA  
<213> Homo sapiens

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120  
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180  
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240  
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420

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 1260  
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 1620  
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&lt;210&gt; 3318

&lt;211&gt; 253

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3318

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Ala | Lys | Thr | Arg | Glu | Leu | Ile | Ala | Arg | Arg | Thr | Thr | Pro | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Glu | Tyr | Ile | Lys | Asn | Arg | Lys | Leu | Glu | Lys | Gln | Arg | Ile | Arg | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Glu | Lys | Arg | Glu | Glu | Arg | Arg | Arg | Arg | Glu | Leu | Glu | Lys | Lys | Arg | Leu |



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<210> 3320

<211> 256

<212> PRT

<213> Homo sapiens

<400> 3320

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Ser | Trp | Met | Ile | Cys | Arg | Leu | Val | Val | Leu | Val | Phe | Gly | Met | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Cys | Pro | Ala | Tyr | Ala | Ser | Tyr | Lys | Ala | Val | Lys | Thr | Lys | Asn | Ile | Arg |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Tyr | Val | Arg | Trp | Met | Met | Tyr | Trp | Ile | Val | Phe | Ala | Leu | Phe | Met |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Ala | Ala | Glu | Ile | Val | Thr | Asp | Ile | Phe | Ile | Ser | Trp | Phe | Pro | Phe | Tyr |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Tyr | Glu | Ile | Lys | Met | Ala | Phe | Val | Leu | Trp | Leu | Leu | Ser | Pro | Tyr | Thr |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Lys | Gly | Ala | Ser | Leu | Leu | Tyr | Arg | Lys | Phe | Val | His | Pro | Ser | Leu | Ser |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Arg | His | Glu | Lys | Glu | Ile | Asp | Ala | Tyr | Ile | Val | Gln | Ala | Lys | Glu | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ser | Tyr | Glu | Thr | Val | Leu | Ser | Phe | Gly | Lys | Arg | Gly | Leu | Asn | Ile | Ala |

|   |     |     |
|---|-----|-----|
| 115   | 120 | 125 |
| Ala Ser Ala Ala Val Gln Ala Ala Thr Lys Ser Gln Gly Ala Leu Ala |     |     |
| 130   | 135 | 140 |
| Gly Arg Leu Arg Ser Phe Ser Met Gln Asp Leu Arg Ser Ile Ser Asp |     |     |
| 145   | 150 | 155 |
| Ala Pro Ala Pro Ala Tyr His Asp Pro Leu Tyr Leu Glu Asp Gln Val |     |     |
| 165   | 170 | 175 |
| Ser His Arg Arg Pro Pro Ile Gly Tyr Arg Ala Gly Gly Leu Gln Asp |     |     |
| 180   | 185 | 190 |
| Ser Asp Thr Glu Asp Glu Cys Trp Ser Asp Thr Glu Ala Val Pro Arg |     |     |
| 195   | 200 | 205 |
| Ala Pro Ala Arg Pro Arg Glu Lys Pro Leu Ile Arg Ser Gln Ser Leu |     |     |
| 210   | 215 | 220 |
| Arg Val Val Lys Arg Lys Pro Pro Val Arg Glu Gly Thr Ser Arg Ser |     |     |
| 225   | 230 | 235 |
| Leu Lys Val Arg Thr Arg Lys Lys Thr Val Pro Ser Asp Val Asp Ser |     |     |
| 245   | 250 | 255 |

&lt;210&gt; 3321

&lt;211&gt; 1536

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3321

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900

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<210> 3322

<211> 454

<212> PRT

<213> Homo sapiens

<400> 3322

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Arg | Val | Val | Asp | Val | Gly | Glu | Arg | Glu | Gly | Asn | Gly | Ser | Gly | Ile |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
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| Thr | Pro | Thr | Ser | Val | Ile | Gln | Val | Thr | Asn | Leu | Ser | Ser | Ala | Val | Thr |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |
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| 65  |     |     |     |     |     | 70  |     |     |     | 75  |     |     |     | 80  |     |
| Val | Cys | Tyr | Val | Lys | Phe | Arg | Asp | Pro | Ser | Ser | Val | Gly | Val | Ala | Gln |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
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|     |     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |
| Pro | Ile | Pro | Thr | Pro | Asn | Pro | Leu | Thr | Thr | Leu | Gly | Val | Ser | Leu | Ser |
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| Ser | Leu | Gly | Ala | Ile | Pro | Ala | Ala | Ala | Leu | Asp | Pro | Asn | Ile | Ala | Thr |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Leu | Gly | Glu | Ile | Pro | Gln | Pro | Pro | Leu | Met | Gly | Asn | Val | Asp | Pro | Ser |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Lys | Ile | Asp | Glu | Ile | Arg | Arg | Thr | Val | Tyr | Val | Gly | Asn | Leu | Asn | Ser |

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| Val Lys Pro Pro Glu Met Thr Pro Gln Ala Ala Ala Lys Glu Leu Glu |     |     |     |     |     |     |
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| Arg Arg Lys Arg Ser Gln Ser Lys His Arg Ser Arg Ser His Asn Arg |     |     |     |     |     |     |
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| Ser Arg Ser Arg Gln Lys Asp Arg Arg Arg Ser Lys Ser Pro His Lys |     |     |     |     |     |     |
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| Lys Arg Ser Lys Ser Arg Glu Arg Arg Lys Ser Arg Ser Arg Ser His |     |     |     |     |     |     |
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| Ile | Ile | Ile | Ser | Glu | Val | Asn | Cys | Ser | Leu | Gly | Arg | Asp | Thr | His | Ser |
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|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
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| Pro | Asp | Glu | Gly | Gln | Glu | Glu | Leu | Glu | Glu | Val | Gln | Ala | Glu | Leu | Lys |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
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<210> 3328

<211> 521

<212> PRT

<213> Homo sapiens

<400> 3328

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Cys | Thr | Thr | Ala | Pro | Trp | Ala | Thr | Arg | Thr | Ala | Ala | Thr | Ala | Lys |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Arg | Pro | Ala | Glu | Glu | Pro | Arg | Ser | Tyr | Pro | Asp | Glu | Glu | Gly | Pro | Lys |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| His | Trp | Ser | Asp | Ser | Arg | Tyr | Glu | His | Val | Met | Lys | Leu | Arg | Gln | Ala |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ala | Leu | Lys | Ser | Ala | Arg | Asp | Met | Trp | Ala | Asp | Tyr | Ile | Leu | Phe | Val |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Asp | Ala | Asp | Asn | Leu | Ile | Leu | Asn | Pro | Asp | Thr | Leu | Ser | Leu | Leu | Ile |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     |     | 80  |
| Ala | Glu | Asn | Lys | Thr | Val | Val | Ala | Pro | Met | Leu | Asp | Ser | Arg | Ala | Ala |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Tyr | Ser | Asn | Phe | Trp | Cys | Gly | Met | Thr | Ser | Gln | Gly | Tyr | Tyr | Lys | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |
| Thr | Pro | Ala | Tyr | Ile | Pro | Ile | Arg | Lys | Arg | Asp | Arg | Arg | Gly | Cys | Phe |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |
| Ala | Val | Pro | Met | Val | His | Ser | Thr | Phe | Leu | Ile | Asp | Leu | Arg | Lys | Ala |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ala | Ser | Arg | Asn | Leu | Ala | Phe | Tyr | Pro | Pro | His | Pro | Asp | Tyr | Thr | Trp |
| 145 |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     | 160 |     |
| Ser | Phe | Asp | Asp | Ile | Val | Phe | Ala | Phe | Ser | Cys | Lys | Gln | Ala | Glu |     |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Val | Gln | Met | Tyr | Val | Cys | Asn | Lys | Glu | Glu | Tyr | Gly | Phe | Leu | Pro | Val |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Pro | Leu | Arg | Ala | His | Ser | Thr | Leu | Gln | Asp | Glu | Ala | Glu | Ser | Phe | Met |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| His | Val | Gln | Leu | Glu | Val | Met | Val | Lys | His | Pro | Pro | Ala | Glu | Pro | Ser |
|     | 210 |     |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |
| Arg | Phe | Ile | Ser | Ala | Pro | Thr | Lys | Thr | Pro | Asp | Lys | Met | Gly | Phe | Asp |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     | 240 |     |
| Glu | Val | Phe | Met | Ile | Asn | Leu | Arg | Arg | Arg | Gln | Asp | Arg | Arg | Glu | Arg |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |
| Met | Leu | Arg | Ala | Leu | Gln | Ala | Gln | Glu | Ile | Glu | Cys | Arg | Leu | Val | Glu |

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<210> 3329
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<212> DNA
<213> Homo sapiens
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2518

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<210> 3330

<211> 235

<212> PRT

<213> Homo sapiens

<400> 3330

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Ala | Arg | Val | Val | Ala | Glu | Pro | Gly | Leu | Asp | Val | Pro | Glu | Gly | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Leu | Asn | Leu | Ser | Cys | Arg | Leu | Leu | Gly | Gly | Pro | Gly | Pro | Val | Gly |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asn | Ser | Thr | Phe | Ala | Trp | Phe | Trp | Asn | Asp | Arg | Arg | Leu | His | Ala | Glu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Pro | Val | Pro | Thr | Leu | Ala | Phe | Thr | His | Val | Ala | Arg | Ala | Gln | Ala | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Met | Tyr | His | Cys | Leu | Ala | Glu | Leu | Pro | Thr | Gly | Ala | Ala | Ala | Ser | Ala |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Pro | Val | Met | Leu | Arg | Val | Leu | Tyr | Pro | Pro | Lys | Thr | Pro | Thr | Met | Met |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Val | Phe | Val | Glu | Pro | Glu | Gly | Gly | Leu | Arg | Gly | Ile | Leu | Asp | Cys | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Val | Asp | Ser | Glu | Pro | Leu | Ala | Ser | Leu | Thr | Leu | His | Leu | Gly | Ser | Arg |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Leu | Val | Ala | Ser | Ser | Gln | Pro | Gln | Gly | Ala | Pro | Ala | Glu | Pro | His | Ile |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| His | Val | Leu | Ala | Ser | Pro | Asn | Ala | Leu | Arg | Val | Asp | Ile | Glu | Ala | Leu |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Arg | Pro | Ser | Asp | Gln | Gly | Glu | Tyr | Ile | Cys | Ser | Ala | Ser | Asn | Val | Leu |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Gly | Ser | Ala | Ser | Thr | Ser | Thr | Tyr | Phe | Gly | Val | Arg | Ala | Leu | His | Arg |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     | 190 |     |     |     |
| Leu | His | Gln | Phe | Gln | Gln | Leu | Leu | Trp | Val | Leu | Gly | Leu | Leu | Val | Gly |
|     |     | 195 |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Leu | Leu | Leu | Leu | Leu | Leu | Gly | Leu | Gly | Ala | Cys | Tyr | Thr | Trp | Arg | Arg |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Arg | Arg | Val | Cys | Lys | Gln | Ser | Met | Gly | Glu | Asn |     |     |     |     |     |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     |     |

<210> 3331

<211> 1644

<212> DNA

<213> Homo sapiens

<400> 3331

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240
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360
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420
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480
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Ile Lys Ile Pro Gly Cys Arg Lys Gln Gly Leu Val His Arg Thr His  
35 40 45  
Met Ser Ser Cys Arg Val Asp Lys Pro Ser Glu Ile Val Asp Val Gly  
50 55 60  
Asp Lys Val Trp Val Lys Leu Ile Gly Arg Glu Met Lys Asn Asp Arg  
65 70 75 80  
Ile Lys Val Ser Leu Ser Met Lys Val Val Asn Gln Gly Thr Gly Lys  
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Asp Leu Asp Pro Asn Asn Val Ser Leu Ser Lys Lys Arg Gly Gly Gly  
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<210> 3333  
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<212> DNA  
<213> Homo sapiens

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120  
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240  
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480  
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540  
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660

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780
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2160
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2280

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<210> 3334  
 <211> 672  
 <212> PRT  
 <213> Homo sapiens

<400> 3334  
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 35 40 45  
 His Met His His Val Arg Asp Arg Glu Met Pro Glu Ala Leu Glu Phe  
 50 55 60  
 Asn Leu Ser Ala Asn Pro Glu Ser Ser Thr Ile Phe Gln Arg Asn Ser  
 65 70 75 80  
 Gln Thr Glu Ala Leu Glu Phe Asn Pro Ser Ala Asn Pro Glu Ala Ser  
 85 90 95  
 Thr Ile Phe Gln Arg Asn Ser Gln Thr Asp Val Val Glu Ile Arg Arg  
 100 105 110  
 Ser Asn Cys Thr Asn His Val Ser Ala Val Arg Phe Ser Gln Gln Tyr  
 115 120 125  
 Ser Leu Cys Ser Thr Ile Phe Leu Asp Asp Ser Thr Ala Ile Gln His  
 130 135 140  
 Tyr Leu Thr Met Thr Ile Ile Ser Val Thr Leu Glu Ile Pro His His  
 145 150 155 160  
 Ile Thr Gln Arg Asp Ala Asp Arg Thr Leu Ser Ile Pro Asp Glu Gln  
 165 170 175  
 Leu His Ser Phe Ala Val Ser Thr Val His Ile Met Lys Lys Arg Asn  
 180 185 190  
 Gly Gly Gly Ser Leu Asn Asn Tyr Ser Ser Ser Ile Pro Ser Thr Pro  
 195 200 205  
 Ser Thr Ser Gln Glu Asp Pro Gln Phe Ser Val Pro Pro Thr Ala Asn  
 210 215 220  
 Thr Pro Thr Pro Val Cys Lys Arg Ser Met Arg Trp Ser Asn Leu Phe  
 225 230 235 240  
 Thr Ser Glu Lys Gly Ser His Pro Asp Lys Glu Arg Lys Ala Pro Glu  
 245 250 255  
 Asn His Ala Asp Thr Ile Gly Ser Gly Arg Ala Ile Pro Ile Lys Gln  
 260 265 270  
 Gly Met Leu Leu Lys Arg Ser Gly Lys Trp Leu Lys Thr Trp Lys Lys  
 275 280 285  
 Lys Tyr Val Thr Leu Cys Ser Asn Gly Met Leu Thr Tyr Tyr Ser Ser  
 290 295 300  
 Leu Gly Asp Tyr Met Lys Asn Ile His Lys Lys Glu Ile Asp Leu Gln  
 305 310 315 320  
 Thr Ser Thr Ile Lys Val Pro Gly Lys Trp Pro Ser Leu Ala Thr Ser

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Met Asp Thr Gly Leu Gly Asp Ser Ile Cys Phe Ser Pro Ser Ile Ser
          355          360          365
Ser Thr Thr Ser Pro Lys Leu Asn Pro Pro Pro Ser Pro His Ala Asn
          370          375          380
Lys Lys Lys His Leu Lys Lys Lys Ser Thr Asn Asn Phe Met Ile Val
385          390          395          400
Ser Ala Thr Gly Gln Thr Trp His Phe Glu Ala Thr Thr Tyr Glu Glu
          405          410          415
Arg Asp Ala Trp Val Gln Ala Ile Gln Ser Gln Ile Leu Ala Ser Leu
          420          425          430
Gln Ser Cys Glu Ser Ser Lys Ser Lys Ser Gln Leu Thr Ser Gln Ser
          435          440          445
Glu Ala Met Ala Leu Gln Ser Ile Gln Asn Met Arg Gly Asn Ala His
          450          455          460
Cys Val Asp Cys Glu Thr Gln Asn Pro Lys Trp Ala Ser Leu Asn Leu
465          470          475          480
Gly Val Leu Met Cys Ile Glu Cys Ser Gly Ile His Arg Ser Leu Gly
          485          490          495
Thr Arg Leu Ser Arg Val Arg Ser Leu Glu Leu Asp Asp Trp Pro Val
          500          505          510
Glu Leu Arg Lys Val Met Ser Ser Ile Gly Asn Glu Leu Ala Asn Ser
          515          520          525
Ile Trp Glu Glu Ser Ser Gln Gly Arg Thr Lys Pro Ser Val Asp Ser
530          535          540
Thr Arg Glu Glu Lys Glu Arg Trp Ile Arg Ser Lys Tyr Glu Glu Lys
545          550          555          560
Leu Phe Leu Ala Pro Leu Pro Cys Thr Glu Leu Ser Leu Gly Gln Gln
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          580          585          590
Leu Ala His Gly Ser Arg Glu Glu Val Asn Glu Thr Cys Gly Glu Gly
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Asp Gly Cys Thr Ala Leu His Leu Ala Cys Arg Lys Gly Asn Val Val
610          615          620
Leu Ala Gln Leu Leu Ile Trp Tyr Gly Val Asp Val Met Ala Arg Asp
625          630          635          640
Ala His Gly Asn Thr Ala Leu Thr Tyr Ala Arg Gln Ala Ser Ser Gln
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Glu Cys Ile Asn Val Leu Leu Gln Tyr Gly Cys Pro Asp Lys Cys Val
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&lt;210&gt; 3335

&lt;211&gt; 477

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3335

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120

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 360  
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<210> 3336

<211> 59

<212> PRT

<213> Homo sapiens

<400> 3336

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Pro | Pro | Arg | Ile | Cys | Pro | Glu | Thr | Gly | Leu | Asp | Ser | Gln | Asp | Tyr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Arg | Cys | Ala | Glu | Cys | Arg | Ala | Pro | Ile | Ser | Leu | Arg | Gly | Val | Pro | Ser |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Ala | Arg | Gln | Cys | Asp | Tyr | Thr | Gly | Gln | Tyr | Tyr | Cys | Ser | Pro | Cys |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| His | Trp | Asn | Ala | Leu | Ala | Val | Ile | Pro | Ala | Arg |     |     |     |     |     |
|     | 50  |     |     |     |     | 55  |     |     |     |     |     |     |     |     |     |

<210> 3337

<211> 679

<212> DNA

<213> Homo sapiens

<400> 3337

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 120  
 agcttagcct ccaaagacac agatagagtg agagagagag acagagagag acacagagac  
 180  
 agacagagac caaacagaa gcggcaaacg gcaaaaacga agcagaatca atgcaagtta  
 240  
 gagaaaaaaa taaaactaaa catcagagca gggaaaagtc atctactccg tatcacacct  
 300  
 gtgtattagc ttaaccagaa ataagctgga agaggagttc agtagcctct cagcccccta  
 360  
 aagatgttgg tcataccccc tctttcaccg tctgagtcga gaggacacca agccaaacaa  
 420  
 actgtgcccc aaactgggtc atctagtcct occaggtcct tccttgctaa ctgaggaaa  
 480  
 caaggaaaac caactttgga tggcaacttc aacaaggtaa ccctcctttc ttcaatggcc  
 540  
 agactgatgc ccactgacaa tggctttgag atgcttggac agcagactgt catgtcaaga  
 600

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 660  
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 679

<210> 3338

<211> 102

<212> PRT

<213> Homo sapiens

<400> 3338

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Ile | Phe | Leu | Leu | Asn | Asp | Leu | Gly | Ser | Glu | Leu | Cys | Met | Lys | Lys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Lys | Lys | Gly | Lys | Lys | Lys | Arg | Lys | Arg | Asp | Thr | Pro | Gln | Arg | Gly | Gly |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Lys | Glu | Val | Arg | Trp | Gly | Ser | Leu | Ser | Leu | Ala | Ser | Lys | Asp | Thr | Asp |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Arg | Val | Arg | Glu | Arg | Asp | Arg | Glu | Arg | His | Arg | Asp | Arg | Gln | Arg | Pro |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Lys | Gln | Lys | Arg | Gln | Thr | Ala | Lys | Thr | Lys | Gln | Asn | Gln | Cys | Lys | Leu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Glu | Lys | Lys | Ile | Lys | Leu | Asn | Ile | Arg | Ala | Gly | Lys | Ser | His | Leu | Leu |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Arg | Ile | Thr | Pro | Val | Tyr |     |     |     |     |     |     |     |     |     |     |
|     |     |     |     |     | 100 |     |     |     |     |     |     |     |     |     |     |

<210> 3339

<211> 1341

<212> DNA

<213> Homo sapiens

<400> 3339

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 120  
 agaagccagt tccatccagg atccactatc tacacaccta tgttacaaca ttatatcaaa  
 180  
 tctggtatct gaagaaaaga tacacattta atatgttcat ttaagttacg tattttgcag  
 240  
 aaagattaaa aattcattca cacaaaactc aaaaactgta ttaaaagttt gaatataaaa  
 300  
 ctcatatcca cctggaatga ctaaagaatg gaagtctctgt atccacctgt gttaaaactg  
 360  
 gtaaatgtaa tgatatctgt taccaataaa acgcattcgt ttattcaatg taagtaagtt  
 420  
 atctaatttt aacaatatgg caccctaaaa accaactgta tttttatgat gaggcacttt  
 480  
 tgtagtgat gaaacaaaa gaacaaattt gctgcacact gatgccagcg atttttctca  
 540  
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 600  
 actatccgat atatttttaa tatatatata tatatatggt cttctggetg tagtaatgca  
 660

ctgtaaagct atttcacagt gcaaaatgat gaaaccagcc caaatgaagg ctgcataata  
 720  
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 840  
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 960  
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 1080  
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 1341

&lt;210&gt; 3340

&lt;211&gt; 86

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3340

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Thr | Leu | Ala | Ser | Lys | Lys | Thr | Thr | Val | Thr | Arg | Ser | Ser | Asn |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Val | Asn | Ile | Phe | Leu | Tyr | Gln | Asn | Cys | Tyr | Tyr | Ala | Ala | Phe | Ile |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Trp | Ala | Gly | Phe | Ile | Ile | Leu | His | Cys | Glu | Ile | Ala | Leu | Gln | Cys | Ile |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Thr | Thr | Ala | Arg | Arg | Thr | Tyr | Ile | Tyr | Ile | Tyr | Ile | Lys | Asn | Ile | Ser |
|     |     |     | 50  |     |     |     | 55  |     |     |     | 60  |     |     |     |     |
| Asp | Ser | Cys | Ile | Gln | Met | Ser | Lys | Val | Phe | Val | Ala | Thr | Tyr | Tyr | Ile |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Ala | Tyr | Thr | Gln | Asn | His |     |     |     |     |     |     |     |     |     |     |
|     |     |     |     |     | 85  |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 3341

&lt;211&gt; 1132

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3341

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 120

ctggagcatg accacagacc cattcagga ggctggcgga ctcttcatcc tggacagtcc  
 180  
 cttactgtat gtcaagtaaa gctgagaatg aagcggagag catcagacag aggagctggg  
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 420  
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 accgagtact cactgctgtc tctcctgcac acgcaggatg gcgtggtgca ccaccacggc  
 540  
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 aagatgaaga agcgcactct cctcgtcctg gactgcctct gtgctcatga cttcagcgat  
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 840  
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 960  
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 1020  
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 1132

<210> 3342

<211> 308

<212> PRT

<213> Homo sapiens

<400> 3342

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Arg | Arg | Ala | Ser | Asp | Arg | Gly | Ala | Gly | Glu | Thr | Ser | Ala | Arg |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Lys | Ala | Leu | Gly | Ser | Gly | Ile | Ser | Gly | Asn | Asn | Ala | Lys | Arg | Ala |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Pro | Phe | Ile | Leu | Gly | Pro | Arg | Leu | Gly | Asn | Ser | Pro | Val | Pro | Ser |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ile | Val | Gln | Cys | Leu | Ala | Arg | Lys | Asp | Gly | Thr | Asp | Asp | Phe | Tyr | Gln |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Lys | Ile | Leu | Thr | Leu | Glu | Glu | Arg | Gly | Asp | Gln | Gly | Ile | Glu | Ser |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Gln | Glu | Glu | Arg | Gln | Gly | Lys | Met | Leu | Leu | His | Thr | Glu | Tyr | Ser | Leu |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Leu | Ser | Leu | Leu | His | Thr | Gln | Asp | Gly | Val | Val | His | His | His | Gly | Leu |

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<210> 3343
<211> 594
<212> DNA
<213> Homo sapiens
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120
ttcagcatga actgggtcgt gggcagcgcg gacctggaga ttatcaacgc caccactggg
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240
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300
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360
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420
ctgactctct aggctgcggg ctcttggtc ctggagctga gcgggacgct ggagggatgg
480
gaccgtgtct ggggggcgac gtggcgggtc ggccggttcc ctgcattcgt tttactttgg
540
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594

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<210> 3344  
 <211> 143  
 <212> PRT  
 <213> Homo sapiens

<400> 3344  
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 20 25 30  
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 35 40 45  
 Ser Ala Asp Leu Glu Ile Ile Asn Ala Thr Thr Gly Arg Arg Ser Cys  
 50 55 60  
 Gly Gly Pro Ser Arg Leu Cys Lys His Val Leu Ser Ala Arg Trp Ala  
 65 70 75 80  
 Arg Leu Tyr Gly Arg Leu Ser Thr Arg Thr Pro Ser Pro Gly Asp Thr  
 85 90 95  
 Pro Ser Met Tyr Cys Glu Ala Lys Leu Gly Ala His Thr Tyr Gln Ser  
 100 105 110  
 Val Lys Gln Gln Leu Phe Lys Ala Phe Gln Lys Ala Gly Leu Gly Thr  
 115 120 125  
 Trp Val Arg Lys Pro Pro Glu Gln Gln Gln Phe Leu Leu Thr Leu  
 130 135 140

<210> 3345  
 <211> 1149  
 <212> DNA  
 <213> Homo sapiens

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 660

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 840  
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 900  
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 1140  
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 1149

<210> 3346

<211> 263

<212> PRT

<213> Homo sapiens

<400> 3346

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Tyr | Asp | Glu | Lys | Leu | Ala | Arg | Phe | Arg | Gln | Ala | His | Leu | Asn |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Pro | Phe | Asn | Lys | Gln | Ser | Gly | Pro | Arg | Gln | His | Glu | Gln | Gly | Pro | Gly |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Glu | Val | Pro | Asp | Val | Thr | Pro | Glu | Glu | Ala | Leu | Pro | Glu | Leu | Pro |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Pro | Gly | Glu | Pro | Glu | Phe | Arg | Cys | Pro | Glu | Arg | Val | Met | Asp | Leu | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Ser | Glu | Asp | His | Phe | Ser | Arg | Pro | Val | Gly | Leu | Phe | Leu | Ala | Ser |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Asp | Val | Gln | Gln | Leu | Arg | Gln | Ala | Ile | Glu | Glu | Cys | Lys | Gln | Val | Ile |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Leu | Glu | Leu | Pro | Glu | Gln | Ser | Glu | Lys | Gln | Lys | Asp | Ala | Val | Val | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu | Ile | His | Leu | Arg | Leu | Lys | Leu | Gln | Glu | Leu | Lys | Asp | Pro | Asn | Glu |
|     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Asp | Glu | Pro | Asn | Ile | Arg | Val | Leu | Leu | Glu | His | Arg | Phe | Tyr | Lys | Glu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Lys | Ser | Lys | Ser | Val | Lys | Gln | Thr | Cys | Asp | Lys | Cys | Asn | Thr | Ile | Ile |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Trp | Gly | Leu | Ile | Gln | Thr | Trp | Tyr | Thr | Cys | Thr | Gly | Cys | Tyr | Tyr | Arg |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Cys | His | Ser | Lys | Cys | Leu | Asn | Leu | Ile | Ser | Lys | Pro | Cys | Val | Ser | Ser |
|     |     |     | 180 |     |     |     | 185 |     |     |     |     |     | 190 |     |     |
| Lys | Val | Ser | His | Gln | Ala | Glu | Tyr | Glu | Leu | Asn | Ile | Cys | Pro | Glu | Thr |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Gly | Leu | Asp | Ser | Gln | Asp | Tyr | Arg | Cys | Ala | Glu | Cys | Arg | Ala | Pro | Ile |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ser | Leu | Arg | Gly | Val | Pro | Ser | Glu | Ala | Arg | Gln | Cys | Asp | Tyr | Thr | Gly |

|   |     |     |  |     |  |     |
|---|-----|-----|--|-----|--|-----|
| 225   |     | 230 |  | 235 |  | 240 |
| Gln Tyr Tyr Cys Ser His Cys His Trp Asn Asp Leu Ala Val Ile Pro |     |     |  |     |  |     |
|   |     | 245 |  | 250 |  | 255 |
| Glu Ala Gly Val Cys Ser Arg                                     |     |     |  |     |  |     |
|   | 260 |     |  |     |  |     |

&lt;210&gt; 3347

&lt;211&gt; 2267

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3347

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1260

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 1620  
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 1740  
 caaggggaagg ctaagaattg cccagtactg tgcaactact gaaagcccta cccaaggcca  
 1800  
 ccagccttgt cttcctcttt cctctgtcag ttcaaaaaga acagaaacct ccagctcttt  
 1860  
 tacatagcag gtaccaggca tttatcagaa gaggccaagc ttctgggtcc catgcagccc  
 1920  
 tttgaatagt gtgtctaaac aaaaataggt gtccaagtag tcacactgag actttaactg  
 1980  
 gtaaccacc ctgtggcgtc agtcgcagtg ctctggccaa cactatagca gggcttattc  
 2040  
 ttctccctca tgtgtagtga aacaaaatgt aacaccttgg gttcattcag ttccattccc  
 2100  
 tatgtctacc tgtgtcaata taattccctg atttgagggc agctctcttc attttcccca  
 2160  
 aaacagggaa agcaaggagt aaattcctct taaaatcaaa agctaataat atgcttccca  
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 2267  
 <210> 3348  
 <211> 288  
 <212> PRT  
 <213> Homo sapiens

<400> 3348  
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 Lys Ile Glu Asp Thr Leu Cys Pro Phe Gly Phe Glu Val Tyr Pro Phe  
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 Gln Val Ala Trp Tyr Asn Glu Leu Leu Pro Pro Ala Phe His Leu Pro  
 35 40 45  
 Leu Pro Gly Pro Thr Leu Ala Phe Leu Val Leu Ser Thr Pro Ala Met  
 50 55 60  
 Phe Asp Arg Ala Leu Lys Pro Phe Leu Gln Ser Cys His Leu Arg Met  
 65 70 75 80  
 Leu Thr Asp Pro Val Asp Gln Cys Val Ala Tyr His Leu Gly Arg Val  
 85 90 95  
 Gly Glu Ser Leu Pro Glu Leu Gln Ile Glu Ile Ile Ala Asp Tyr Glu  
 100 105 110

Val His Pro Asn Arg Arg Pro Lys Ile Leu Ala Gln Thr Ala Ala His  
 115 120 125  
 Val Ala Gly Ala Ala Tyr Tyr Tyr Gln Arg Gln Asp Val Glu Ala Asp  
 130 135 140  
 Pro Trp Gly Asn Gln Arg Ile Ser Gly Val Cys Ile His Pro Arg Phe  
 145 150 155 160  
 Gly Gly Trp Phe Ala Ile Arg Gly Val Val Leu Leu Pro Gly Ile Glu  
 165 170 175  
 Val Pro Asp Leu Pro Pro Arg Lys Pro His Asp Cys Val Pro Thr Arg  
 180 185 190  
 Ala Asp Arg Ile Ala Leu Leu Glu Gly Phe Asn Phe His Trp Arg Asp  
 195 200 205  
 Trp Thr Tyr Arg Asp Ala Val Thr Pro Gln Glu Arg Tyr Ser Glu Glu  
 210 215 220  
 Gln Lys Ala Tyr Phe Ser Thr Pro Pro Ala Gln Arg Leu Ala Leu Leu  
 225 230 235 240  
 Gly Leu Ala Gln Pro Ser Glu Lys Pro Ser Ser Pro Ser Pro Asp Leu  
 245 250 255  
 Pro Phe Thr Thr Pro Ala Pro Lys Lys Pro Gly Asn Pro Ser Arg Ala  
 260 265 270  
 Arg Ser Trp Leu Ser Pro Arg Val Ser Pro Pro Ala Ser Pro Gly Pro  
 275 280 285

&lt;210&gt; 3349

&lt;211&gt; 1132

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3349

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 ccggaagccg cgccctgcacc ggcgacatcg cgtctataag ctggtggagg acacgaagca  
 120  
 tcggcccaaa gaaaacctgg agctcatcct gacgcagtcg gtggagagta agggccgggc  
 180  
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 240  
 tctttaggcc ggaatcgact ccttcctcag ggactggctg tatatgcac cctgaaaac  
 300  
 aagaagctgt ttgaagagga gaaattgctg agacaagaag gaaaattaga gaagatccag  
 360  
 accaaggcag gtgagggcag agtgaaattt ctaaaaagct gtcgcctgga ggtagggatg  
 420  
 aagaacaatg tcaaatggga gctgaaccct gaaatagttg cccgccactt ctttaagaat  
 480  
 cttggtgttg tggttgcccc acatacatta aagttaccag cagagcctat cacacgggtg  
 540  
 ggcgagtatt ggtgtgaggt gacggtaaat gggcttgata ctgtgagagt gcctatgtct  
 600  
 gtcgtgaact ttgagaagcc caagaccaa agatataagt actggttagc ccagcaagct  
 660  
 gccaaaggcta tggccccccac cagccccag atctaaatct actctccctc caaggcagca  
 720

aagcagaatc gggagcagtg gagcagaaat gtgcaagcac cctgatctca ctcccagctc  
780  
tgaccaaata cagaatttta gagaacatct gaagacatca gactgcactg cgtatacatg  
840  
ttgaattctt catttttggc atctttaact gtcatcactg gggcagggaa gtcctgttcc  
900  
agaagtacca ggctgtagat ttgataagct agatgcagta gaccgaaacc atccaaaacc  
960  
tgtttagctt cttcctccat tggagtttat tgggacaaac aggagagcca gccattgtct  
1020  
ccagtacttg cctcattctc atcatccaaa ctgaacattt gtatcccaag cagaaataaa  
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1132

<210> 3350

<211> 174

<212> PRT

<213> Homo sapiens

<400> 3350

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Pro | Gly | Arg | Gly | Ala | Ser | Ser | Gln | Ala | Asp | Val | Gly | Val | Arg | Gly |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Asp | Leu | Val | Ser | Val | Lys | Lys | Ser | Leu | Gly | Arg | Asn | Arg | Leu | Leu | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gln | Gly | Leu | Ala | Val | Tyr | Ala | Ser | Pro | Glu | Asn | Lys | Lys | Leu | Phe | Glu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Glu | Glu | Lys | Leu | Leu | Arg | Gln | Glu | Gly | Lys | Leu | Glu | Lys | Ile | Gln | Thr |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Lys | Ala | Gly | Glu | Ala | Thr | Val | Lys | Phe | Leu | Lys | Ser | Cys | Arg | Leu | Glu |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Val | Gly | Met | Lys | Asn | Asn | Val | Lys | Trp | Glu | Leu | Asn | Pro | Glu | Ile | Val |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Ala | Arg | His | Phe | Phe | Lys | Asn | Leu | Gly | Val | Val | Val | Ala | Pro | His | Thr |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu | Lys | Leu | Pro | Ala | Glu | Pro | Ile | Thr | Arg | Trp | Gly | Glu | Tyr | Trp | Cys |
|     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Glu | Val | Thr | Val | Asn | Gly | Leu | Asp | Thr | Val | Arg | Val | Pro | Met | Ser | Val |
|     | 130 |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |     |
| Val | Asn | Phe | Glu | Lys | Pro | Lys | Thr | Lys | Arg | Tyr | Lys | Tyr | Trp | Leu | Ala |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     | 160 |     |
| Gln | Gln | Ala | Ala | Lys | Ala | Met | Ala | Pro | Thr | Ser | Pro | Gln | Ile |     |     |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     |     |     |

<210> 3351

<211> 1422

<212> DNA

<213> Homo sapiens

<400> 3351

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cttgaggaat actccatacc tgagtagaca gccatgtggc catcgagct actaattttc  
120

atgatgctct tagctccaat aattcatggt ggcaagcaca gtgaacgaca tcctgccctc  
 180  
 gctgctgcgc cgcgatgcgc tgagcgccgc caaggaggtg ttgtaccacc tggacatcta  
 240  
 cttcagcagc cagctgcaga gcgcgccgct gcccatcgtg gacaagggcc ccgtggagct  
 300  
 gctggaggag ttcgtgttcc aggtgcccaa ggagcgcagc gcgcagccca agagactgaa  
 360  
 ttcccttcag gagcttcaac ttcttgaaat catgtgcaat tatttccagg agcaaaccaa  
 420  
 ggactctgtt cggcagatta ttttttcatc ccttttcagc cctcaaggga acaaagccga  
 480  
 tgacagccgg atgagcttgt tgggaaaact ggtctccatg gcggtggctg tgtgtcgaat  
 540  
 cccggtgttg gagtgtgctg cctcctggct tcagcggacg cccgtggttt actgtgtgag  
 600  
 gttagccaag gccctttag atgactactg ctgtttggtg ccgggatcca ttcagacgct  
 660  
 gaagcagata ttcagtgccg gcccgagatt ctgctgccag ttcatcacct ccgttaccgc  
 720  
 gctctatgac ctgtcatcag atgacctcat tccacctatg gacttgcttg aaatgattgt  
 780  
 cacctggatt tttgaggacc caaggttgat tctcatcact tttttaaata ctccgattgc  
 840  
 ggccaatctg ccaataggat tcttagagct caccocgctc gttggattga tccgctggtg  
 900  
 cgtgaaggca cccctggctt ataaaaggaa aaagaagccc cccttatcca atggccatgt  
 960  
 cagcaacaag gtcacaaagg acccgggcgt ggggatggac agagactccc acctcttgta  
 1020  
 ctcaaaaactc cacctcagcg tcctgcaagt gctcatgacg ctgcagctgc acctgaccga  
 1080  
 gaagaatctg tatgggcgcc tggggctgat cctcttcgac cacatgggtc cgctggtaga  
 1140  
 ggagatcaac aggttggcgg atgaactgaa cccctcaac gcctcccagg agattgagct  
 1200  
 ctgctggac cggctgggc aggtcttgca ggtggccatg gcctcaggag ctctgctgtg  
 1260  
 cagcagagat gaccttagaa ccttgttctc caggctcccc cgtaataacc tcctccagct  
 1320  
 ggtgatctcg ggtcccgctg agcagtcgcc tcacgcgcg ctccccccgg ggttctaccc  
 1380  
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 1422

<210> 3352

<211> 97

<212> PRT

<213> Homo sapiens

<400> 3352

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Trp | Pro | Ser | Gln | Leu | Leu | Ile | Phe | Met | Met | Leu | Leu | Ala | Pro | Ile |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     | 15  |     |     |
| Ile | His | Gly | Gly | Lys | His | Ser | Glu | Arg | His | Pro | Ala | Leu | Ala | Ala | Ala |

```

          20          25          30
Pro Arg Cys Ala Glu Arg Arg Gln Gly Gly Val Val Pro Pro Gly His
      35          40          45
Leu Leu Gln Gln Pro Ala Ala Glu Arg Ala Ala Ala His Arg Gly Gln
      50          55          60
Gly Pro Arg Gly Ala Ala Gly Gly Val Arg Val Pro Gly Ala Gln Gly
65          70          75          80
Ala Gln Arg Ala Ala Gln Glu Thr Glu Phe Pro Ser Gly Ala Ser Thr
          85          90          95
Ser

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<210> 3353  
 <211> 420  
 <212> DNA  
 <213> Homo sapiens

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<400> 3353
nngaagctat cctcatcctc ttcccgacct cggctcctgtg aagtccttgg aattaacatc
60
tttccatctc ctgaccagcc tgccaatgtg cctgtcctcc cacctgccat gaacacgggg
120
ggctccctac ctgacctcac caacctgcac tttccccccac cactgcccac ccccttggac
180
cctgaagaga cagcctaccc tagcctgagt gggggcaaca gtacctocaa tttgaccac
240
accatgactc acctgggcat cagcaggggc atgggccttg gccagggcta tgatgcacca
300
gggcgtcccc ctggatacca gtaaactgtc cactgaccag cggttacccc catacccata
360
cagttcccca agtttggtn tctgcttacc agccccacac ccaaagttt taacagcagc
420

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<210> 3354  
 <211> 107  
 <212> PRT  
 <213> Homo sapiens

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<400> 3354
Xaa Lys Leu Ser Ser Ser Ser Arg Pro Arg Ser Cys Glu Val Pro
1          5          10          15
Gly Ile Asn Ile Phe Pro Ser Pro Asp Gln Pro Ala Asn Val Pro Val
      20          25          30
Leu Pro Pro Ala Met Asn Thr Gly Gly Ser Leu Pro Asp Leu Thr Asn
      35          40          45
Leu His Phe Pro Pro Pro Leu Pro Thr Pro Leu Asp Pro Glu Glu Thr
      50          55          60
Ala Tyr Pro Ser Leu Ser Gly Gly Asn Ser Thr Ser Asn Leu Thr His
65          70          75          80
Thr Met Thr His Leu Gly Ile Ser Arg Gly Met Gly Leu Gly Pro Gly
      85          90          95
Tyr Asp Ala Pro Gly Arg Pro Pro Gly Tyr Gln
      100          105

```

&lt;210&gt; 3355

&lt;211&gt; 474

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3355

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gaacagccag ttgaacctga tggccccctt cctggctcag acaataacca agaaaagaaa
60
gtaagattat ctccagccaa aatgtcaacc aagaattcta cagatctagt tgaatatgtt
120
gacaagagtc atgctttttct ccccatcatt ccaaacaccc agagaggtca gctagaagac
180
agactgaaca accaggcgcg taccatagct ttccttcttg aacaagcctt ccgcatcaag
240
gaggacatct ctgcttgcc tgcaggggacc catggctttc gaaaagagga atcgctcgcc
300
aggaagttac tggaaagcca catccagacc atcaccagca tcgtcaaaaa actcagccaa
360
aatattgaga ttttagaaga ccaaataaga gctcgagatc aggcggccac aggaactaac
420
tttgagtagc acgagataaa catcaaacac ctacaaggag ttgggagatc tttc
474

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&lt;210&gt; 3356

&lt;211&gt; 131

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3356

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Met Ser Thr Lys Asn Ser Thr Asp Leu Val Glu Tyr Val Asp Lys Ser
1           5           10           15
His Ala Phe Leu Pro Ile Ile Pro Asn Thr Gln Arg Gly Gln Leu Glu
20           25           30
Asp Arg Leu Asn Asn Gln Ala Arg Thr Ile Ala Phe Leu Leu Glu Gln
35           40           45
Ala Phe Arg Ile Lys Glu Asp Ile Ser Ala Cys Leu Gln Gly Thr His
50           55           60
Gly Phe Arg Lys Glu Glu Ser Leu Ala Arg Lys Leu Leu Glu Ser His
65           70           75           80
Ile Gln Thr Ile Thr Ser Ile Val Lys Lys Leu Ser Gln Asn Ile Glu
85           90           95
Ile Leu Glu Asp Gln Ile Arg Ala Arg Asp Gln Ala Ala Thr Gly Thr
100          105          110
Asn Phe Ala Val His Glu Ile Asn Ile Lys His Leu Gln Gly Val Gly
115          120          125
Arg Ser Phe
130

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&lt;210&gt; 3357

&lt;211&gt; 2268

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3357

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agcagccatt atggattttgg atgtgctctt tatacccatg tctctaattg cagatggagg  
120  
agggcctata aaaataattc cttcttgctt acaaagttca gcaaattcca tgttttctga  
180  
aagaaaaccg catcctggat ggatagcctg tgcagcagag gtcttgcca cttgaatgat  
240  
tttctccata gataggtagc tctgctggga ggaacgggtt tggcgtgtgg gacgcagctg  
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cctctgtact ggggagtcac ggagtggccg ggctccaggg acatggcggc ggctctgcg  
360  
gtgtcgtgac tgctggtggc ggcggagagg aaccggtggc atcgtctccc gagcctgctc  
420  
ctgccgccga ggacatgggt gtggaggcaa agaaccatga agtacacaac agccacagga  
480  
agaaacatta ccaaggctct cattgcaaac agaggagaaa ttgcctgcag ggtgatgcgc  
540  
acagccaaaa aactgggtgt acagactgtg gcggtttata gtgaggctga cagaaattcc  
600  
atgcatgtag atatggcaga tgaagcatat tccatcggcc ccgctccctc ccagcagagc  
660  
tacctatcta tggagaaaaat cattcaagtg gccaaagacct ctgctgcaca ggctatccat  
720  
ccaggatgcg gttttctttc agaaaacatg gaatttgctg aactttgtaa gcaagaagga  
780  
attattttta taggcctctc tccatctgca attagagaca tgggtataaa gagcacatcc  
840  
aatccataa tggctgctgc tggagtacct gttgtggagg gttatcatgg tgaggaccaa  
900  
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960  
gtccgggggtg gaggaggaaa agaatgagg attgttagat cagaacaaga atttcaagaa  
1020  
cagttagagt cagcacggag agaagctaag aagtctttca atgatgatgc tatgctgac  
1080  
gagaagtttg tagacacacc gaggcattga gaagtccagg tgtttggtga tcacatggc  
1140  
aatgctgtgt acttggttga aagagactgt agtgtgcaga ggcgacatca gaagatcatt  
1200  
gaggaggccc cagcgcttg tattaatct gaagtaagaa aaaagctggg agaagctgca  
1260  
gtcagagctg ctaaagctgt aaattatgtt ggagcaggga ctgtggagtt tattatggac  
1320  
tcaaaacata atttctgttt catggagatg aatacaaggc tgcaagtgga acatcctgtt  
1380  
actgagatga tcacaggaac tgacttggtg gagtggcagc ttagaattgc agcaggagag  
1440  
aagattcctt tgagccagga agaaataact ctgcagggcc atgccttcga agctagaata  
1500  
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1560  
actcctcgag cagacccttc caccaggatt gaaactggag tacggcaagg agacgaagtt  
1620

tccgtgcatt atgaccccat gattgcgaag ctggctcgtgt gggcagcaga tcgccaggcg  
 1680  
 gcattgacaa aactgaggta cagccttcgt cagtacaata ttgttggact gcacaccaac  
 1740  
 attgacttct tactcaacct gtctggccac ccagagtttg aagctgggaa cgtgcacact  
 1800  
 gatttcatcc ctcaacacca caaacagttg ttgctcagtc ggaaggctgc agccaaagag  
 1860  
 tctttatgcc aggcagccct gggctctcatc ctcaaggaga aagccatgac cgacactttc  
 1920  
 actcttcagg cacatgatca attctctcca ttttcgtcta gcagtggaag aagactgaat  
 1980  
 atctcgtata ccagaaacat gactcttaaa gatggtaaaa acagttttcg tctcctcgga  
 2040  
 taatcaacca tttccatact catgtaatct aggcatactc tggagtatt acaggtttgg  
 2100  
 ttccagacca ctacaataaa atgtagccat agctgtaacg tataaccatg atgggtctta  
 2160  
 tagcatgcag attgaagata aaactttcca agtccttggt aatctttaca gcgagggaga  
 2220  
 ctgcacttac ctgaaatggt ctgttaatgg agttgctagt aaagcgaa  
 2268

<210> 3358

<211> 493

<212> PRT

<213> Homo sapiens

<400> 3358

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Thr | Val | Ala | Val | Tyr | Ser | Glu | Ala | Asp | Arg | Asn | Ser | Met | His | Val |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Asp | Met | Ala | Asp | Glu | Ala | Tyr | Ser | Ile | Gly | Pro | Ala | Pro | Ser | Gln | Gln |
|     |     |     | 20  |     |     |     |     |     | 25  |     |     |     | 30  |     |     |
| Ser | Tyr | Leu | Ser | Met | Glu | Lys | Ile | Ile | Gln | Val | Ala | Lys | Thr | Ser | Ala |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |
| Ala | Gln | Ala | Ile | His | Pro | Gly | Cys | Gly | Phe | Leu | Ser | Glu | Asn | Met | Glu |
|     |     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |
| Phe | Ala | Glu | Leu | Cys | Lys | Gln | Glu | Gly | Ile | Ile | Phe | Ile | Gly | Pro | Pro |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Pro | Ser | Ala | Ile | Arg | Asp | Met | Gly | Ile | Lys | Ser | Thr | Ser | Lys | Ser | Ile |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Met | Ala | Ala | Ala | Gly | Val | Pro | Val | Val | Glu | Gly | Tyr | His | Gly | Glu | Asp |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gln | Ser | Asp | Gln | Cys | Leu | Lys | Glu | His | Ala | Arg | Arg | Ile | Gly | Tyr | Pro |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |
| Val | Met | Ile | Lys | Ala | Val | Arg | Gly | Gly | Gly | Gly | Lys | Gly | Met | Arg | Ile |
|     |     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |
| Val | Arg | Ser | Glu | Gln | Glu | Phe | Gln | Glu | Gln | Leu | Glu | Ser | Ala | Arg | Arg |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Glu | Ala | Lys | Lys | Ser | Phe | Asn | Asp | Asp | Ala | Met | Leu | Ile | Glu | Lys | Phe |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Val | Asp | Thr | Pro | Arg | His | Val | Glu | Val | Gln | Val | Phe | Gly | Asp | His | His |
|     |     |     | 180 |     |     |     | 185 |     |     |     |     |     | 190 |     |     |
| Gly | Asn | Ala | Val | Tyr | Leu | Phe | Glu | Arg | Asp | Cys | Ser | Val | Gln | Arg | Arg |

|   |     |     |
|---|-----|-----|
| 195   | 200 | 205 |
| His Gln Lys Ile Ile Glu Glu Ala Pro Ala Pro Gly Ile Lys Ser Glu |     |     |
| 210   | 215 | 220 |
| Val Arg Lys Lys Leu Gly Glu Ala Ala Val Arg Ala Ala Lys Ala Val |     |     |
| 225   | 230 | 235 |
| Asn Tyr Val Gly Ala Gly Thr Val Glu Phe Ile Met Asp Ser Lys His |     |     |
| 245   | 250 | 255 |
| Asn Phe Cys Phe Met Glu Met Asn Thr Arg Leu Gln Val Glu His Pro |     |     |
| 260   | 265 | 270 |
| Val Thr Glu Met Ile Thr Gly Thr Asp Leu Val Glu Trp Gln Leu Arg |     |     |
| 275   | 280 | 285 |
| Ile Ala Ala Gly Glu Lys Ile Pro Leu Ser Gln Glu Glu Ile Thr Leu |     |     |
| 290   | 295 | 300 |
| Gln Gly His Ala Phe Glu Ala Arg Ile Tyr Ala Glu Asp Pro Ser Asn |     |     |
| 305   | 310 | 315 |
| Asn Phe Met Pro Val Ala Gly Pro Leu Val His Leu Ser Thr Pro Arg |     |     |
| 325   | 330 | 335 |
| Ala Asp Pro Ser Thr Arg Ile Glu Thr Gly Val Arg Gln Gly Asp Glu |     |     |
| 340   | 345 | 350 |
| Val Ser Val His Tyr Asp Pro Met Ile Ala Lys Leu Val Val Trp Ala |     |     |
| 355   | 360 | 365 |
| Ala Asp Arg Gln Ala Ala Leu Thr Lys Leu Arg Tyr Ser Leu Arg Gln |     |     |
| 370   | 375 | 380 |
| Tyr Asn Ile Val Gly Leu His Thr Asn Ile Asp Phe Leu Leu Asn Leu |     |     |
| 385   | 390 | 395 |
| Ser Gly His Pro Glu Phe Glu Ala Gly Asn Val His Thr Asp Phe Ile |     |     |
| 405   | 410 | 415 |
| Pro Gln His His Lys Gln Leu Leu Leu Ser Arg Lys Ala Ala Ala Lys |     |     |
| 420   | 425 | 430 |
| Glu Ser Leu Cys Gln Ala Ala Leu Gly Leu Ile Leu Lys Glu Lys Ala |     |     |
| 435   | 440 | 445 |
| Met Thr Asp Thr Phe Thr Leu Gln Ala His Asp Gln Phe Ser Pro Phe |     |     |
| 450   | 455 | 460 |
| Ser Ser Ser Ser Gly Arg Arg Leu Asn Ile Ser Tyr Thr Arg Asn Met |     |     |
| 465   | 470 | 475 |
| Thr Leu Lys Asp Gly Lys Asn Ser Phe Arg Leu Leu Gly             |     |     |
| 485   | 490 |     |

&lt;210&gt; 3359

&lt;211&gt; 652

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3359

```

ntccggacgt aatcgtaggt tttgttctgc aataggcggc ttagagggag gggctttttc
60
gcctatacct actgtagctt ctccacgtat ggaccctaaa ggctactgct gctactacgg
120
ggctagacag ttactgtctc agctctagga tgtgcgttct tccactagaa gctcttctga
180
gggaggtaat taaaaaacag tggaatggaa aaacagtgcg gtagtcatcc tgtaatatgc
240
tccttgtaa caatgtatac attcctgcta ggtgccatat tcattgcttt aagctcaagt
300

```

cgcaccttac tagtgaagta ttctgccaat gaagaaaaca agtatgatta tcttccaact  
 360  
 actgtgaatg tgtgctcaga actgggtgaag ctagtcttct gtgtgcttgt gtcattctgt  
 420  
 gttataaaga aagatcatca aagtagaaat ttgaaatatg cttcctggaa ggaattctct  
 480  
 gatttcatga agtgggccat tctgccttt ctttatttcc tggataactt gattgtcttc  
 540  
 tatgtcctgt cctatcttca accagccatg gctgttatct tctcaaattt tagcattata  
 600  
 acaacagctc ttctattcag gatagtgtg aagaggcgtc taaactggat cc  
 652

<210> 3360

<211> 149

<212> PRT

<213> Homo sapiens

<400> 3360

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Lys | Gln | Cys | Cys | Ser | His | Pro | Val | Ile | Cys | Ser | Leu | Ser | Thr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Met | Tyr | Thr | Phe | Leu | Leu | Gly | Ala | Ile | Phe | Ile | Ala | Leu | Ser | Ser | Ser |
|     |     |     | 20  |     |     |     | 25  |     |     |     |     |     | 30  |     |     |
| Arg | Ile | Leu | Leu | Val | Lys | Tyr | Ser | Ala | Asn | Glu | Glu | Asn | Lys | Tyr | Asp |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Tyr | Leu | Pro | Thr | Thr | Val | Asn | Val | Cys | Ser | Glu | Leu | Val | Lys | Leu | Val |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Phe | Cys | Val | Leu | Val | Ser | Phe | Cys | Val | Ile | Lys | Lys | Asp | His | Gln | Ser |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Arg | Asn | Leu | Lys | Tyr | Ala | Ser | Trp | Lys | Glu | Phe | Ser | Asp | Phe | Met | Lys |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Trp | Ser | Ile | Pro | Ala | Phe | Leu | Tyr | Phe | Leu | Asp | Asn | Leu | Ile | Val | Phe |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Tyr | Val | Leu | Ser | Tyr | Leu | Gln | Pro | Ala | Met | Ala | Val | Ile | Phe | Ser | Asn |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Phe | Ser | Ile | Ile | Thr | Thr | Ala | Leu | Leu | Phe | Arg | Ile | Val | Leu | Lys | Arg |
|     |     | 130 |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |
| Arg | Leu | Asn | Trp | Ile |     |     |     |     |     |     |     |     |     |     |     |
| 145 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 3361

<211> 1040

<212> DNA

<213> Homo sapiens

<400> 3361

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 60  
 gacgggagc cgggacccaa gaagtgggag gaccgcgcgt gtcgcggcct agcggcgagg  
 120  
 ggagtcgcct gcgcgcgcag cggaggccag tgcgcggcg catagcgagc ccgggtctgt  
 180  
 gatcgccgag gcgggagtga agatagtcca agtcctaaga gacagcgctt ctctcattca  
 240

gtctttgatt atacatcagc atcaccagct cctcaccac caatgcgacc atgggagatg  
 300  
 acatcaaata ggcagccccc ttcagttcga ccaagccaac atcacttctc aggggaacga  
 360  
 tgcaacacac ctgcacgcaa cagaagaagt cctcctgtca ggcgccagag aggaagaagg  
 420  
 gatcgtctgt ctgcacataa ttccattagt caagatgaaa actatcacca tctcccttac  
 480  
 gcacagcagc aagcaataga ggagcctcga gccttccacc ctccgaatgt atctccccgt  
 540  
 ctgctacatc ctgctgtcga tccaccccag cagaatgcag tcatgggtga catacatgat  
 600  
 cagctccatc aaggaacagt cctgttttct tacacagtaa caacagtggc accacatggg  
 660  
 attccactct gcacaggcca gcacatccct gcttgtagta cacagcaggt cccaggatgc  
 720  
 tctgtggttt tcagtggaca gcacctccct gtctgtagtg tgccctctcc aatgcttcag  
 780  
 gcatgttcag ttcagcactt accagtacca tatgctgcat tcccaccctt tatttctagt  
 840  
 gatccatttc ttatacatcc tcttcacctt tctcccatc atcctctca tttgccacca  
 900  
 ccaggccagt ttgtcccttt ccaaacacag caatcacgat cgcctctgca aaggatagaa  
 960  
 aatgaagtgg aactcttagg agaacatctt ccaggagccc acccccagca ccccatctg  
 1020  
 ttaataaata tctcaactcc  
 1040

&lt;210&gt; 3362

&lt;211&gt; 252

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3362

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Arg | Pro | Trp | Glu | Met | Thr | Ser | Asn | Arg | Gln | Pro | Pro | Ser | Val | Arg |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Pro | Ser | Gln | His | His | Phe | Ser | Gly | Glu | Arg | Cys | Asn | Thr | Pro | Ala | Arg |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asn | Arg | Arg | Ser | Pro | Pro | Val | Arg | Arg | Gln | Arg | Gly | Arg | Arg | Asp | Arg |
|     |     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |
| Leu | Ser | Arg | His | Asn | Ser | Ile | Ser | Gln | Asp | Glu | Asn | Tyr | His | His | Leu |
|     |     |     | 50  |     |     |     | 55  |     |     |     | 60  |     |     |     |     |
| Pro | Tyr | Ala | Gln | Gln | Gln | Ala | Ile | Glu | Glu | Pro | Arg | Ala | Phe | His | Pro |
| 65  |     |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |
| Pro | Asn | Val | Ser | Pro | Arg | Leu | Leu | His | Pro | Ala | Ala | His | Pro | Pro | Gln |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |
| Gln | Asn | Ala | Val | Met | Val | Asp | Ile | His | Asp | Gln | Leu | His | Gln | Gly | Thr |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Val | Pro | Val | Ser | Tyr | Thr | Val | Thr | Thr | Val | Ala | Pro | His | Gly | Ile | Pro |
|     |     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |
| Leu | Cys | Thr | Gly | Gln | His | Ile | Pro | Ala | Cys | Ser | Thr | Gln | Gln | Val | Pro |
|     |     |     | 130 |     |     |     | 135 |     |     |     | 140 |     |     |     |     |
| Gly | Cys | Ser | Val | Val | Phe | Ser | Gly | Gln | His | Leu | Pro | Val | Cys | Ser | Val |

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145          150          155          160
Pro Pro Pro Met Leu Gln Ala Cys Ser Val Gln His Leu Pro Val Pro
          165          170          175
Tyr Ala Ala Phe Pro Pro Leu Ile Ser Ser Asp Pro Phe Leu Ile His
          180          185          190
Pro Pro His Leu Ser Pro His His Pro Pro His Leu Pro Pro Pro Gly
          195          200          205
Gln Phe Val Pro Phe Gln Thr Gln Gln Ser Arg Ser Pro Leu Gln Arg
          210          215          220
Ile Glu Asn Glu Val Glu Leu Leu Gly Glu His Leu Pro Gly Ala His
225          230          235          240
Pro Gln His Pro His Leu Leu Ile Asn Ile Ser Thr
          245          250

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```

<210> 3363
<211> 718
<212> DNA
<213> Homo sapiens

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```

<400> 3363
cagaaggacc ccaggatggc ggtcatcatg cccaggaacg ttggtgatgg ggaatgggtt
60
ggccagcatg atcagggacc ccgtcatgcc catgattttt tgggtggcat tggcgaccga
120
gtagctcagg agtgtctccg gagcccactg gagaagcccc ccaacggcct cctcttcccc
180
cagcacgggg actatcagta cggccgcaac aacatctaaa cagaccactt ccaatacagc
240
cggcagagct acccaaactc gtacagtttg aaccgctatg atgtgtagag tccaaaggac
300
aggaccagac tgttggtgac tccttccccg gccccacag cagtatcaga aacttctgac
360
aatcagtga tgtacaacc ccgaggggg acggtgcata actctccatc agaagccctg
420
gggttctctg cccccgtga gccgcaggag gatgcgttgc ctgcagtgca gacggccgtg
480
agctctgggc aaacctaacc agagaccagt gtccatgct ctttcttctt ggagcctgtc
540
atctgagggc cgtgtccctg cggagatctt ggccacgttg tacctttcca tgtggaatta
600
ttccccaagc agtgtagctc agagcacttg tgtctgcatt ccagataaca ttcaggacct
660
gtgtgaaaag ctggggtcac tgtggctgta gaccatgaac tggcagtggt ggtgtcca
718

```

```

<210> 3364
<211> 163
<212> PRT
<213> Homo sapiens

```

```

<400> 3364
Met Gly His Trp Ser Leu Phe Arg Phe Ala Gln Ser Ser Arg Pro Ser
1          5          10          15
Ala Leu Gln Ala Thr His Pro Pro Ala Ala His Gly Gly Pro Gly Thr

```

```

<400> 3365
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tctcttccct tcttttccct ttctcttccc tatttgaaat tggcatcgag ggggctaagt
120
tcgggtggca gcgcggggcg caacgcaggg gtcacggcga cggcggcggc ggctgacggc
180
tggaagggtg ggcttccctc accgctcgtc ctcttctctc gctccgctcg gtgtcaggcg
240
cggcggcggc gcggcgggcg gacttcgtcc ctctctctgc tccccccac accggagcgg
300
gcactcttcg ctctgccatc ccccgacct tcaccccgag gactgggcgc ctctctcggc
360
gcagctgagg gagcgggggc cgggtctctg ctcggttgtc gagcctccat gtcggataat
420
cagaactgga actcgtcggg ctctggaggag gatccagaga cggagtctgg gccgcctgtg
480
gagcgctgcg gggtcctcag taagtggaca aactacattc atgggtggca ggatcgttgg
540
gtagttttga aaaataatgc tctgagttac tacaaatctg aagatgaaac agagtatggc
600
tgcagaggat ccattctgtct tagcaaggct gtcatcacac ctcacgattt tgatgaatgt
660
cgatttgata ttagtgtaaa tgatagtgtt tggatatctc gtgctcagga tccagatcat
720
agacagcaat ggatagatgc cattgaacag cacaagactg aatctggata tggatctgaa
780
tccagcttgc gtcgacatgg ctcaatgggt tccttggtgt ctggagcaag tggctactct
840

```

gcaacatcca cctcttcatt caagaaaggc cacagtttac gtgagaagtt ggctgaaatg  
900  
gaaacattta gagacatctt atgtagacaa gttgacacgc tacagaagta ctttgatgcc  
960  
tgtgctgatg ctgtctctaa ggatgaactt caaagggata aagtggtaga agatgatgaa  
1020  
gatgactttc ctacaacgcg ttctgatggg gacttcttgc atagtaccaa cggcaataaa  
1080  
gaaaagttat ttccacatgt gacacccaaa ggaattaatg gtatagactt taaaggggaa  
1140  
gcgataactt ttaaagcaac tactgctgga atccttgcaa cactttctca ttgtattgaa  
1200  
ctaattggta aacgtgagga cagctggcag aagagactgg ataaggaaac tgagaagaaa  
1260  
agaagaacag aggaagcata taaaaatgca atgacagaac ttaagaaaaa atcccacttt  
1320  
ggaggaccag attatgaaga aggccctaac agtctgatta atgaagaaga gttctttgat  
1380  
gctgttgaag ctgctcttga cagacaagat aaaatagaag aacagtcaca gagtgaaaag  
1440  
gtgagattac attggcctac atccttgccc tctggagatg ccttttcttc tgtggggaca  
1500  
catagatttg tccaaaagcc ctatagtcgc tcttcctcca tgtcttccat tgatctagtc  
1560  
agtgcctctg atgatgttca cagattcagc tcccaggttg aagagatggg gcagaaccac  
1620  
atgacttact cattacagga tgtaggcgga gatgccaatt ggcagttggg tgtagaagaa  
1680  
ggagaaatga aggtatacag aagagaagta gaagaaaatg ggattgttct ggatccctta  
1740  
aaagctaccc atgcagttaa aggcgtcaca ggacatgaag tctgcaatta tttctggaat  
1800  
gttgacgttc gcaatgactg ggaaacaact atagaaaact ttcattgtggg ggaaacatta  
1860  
gctgataatg caatcatcat ttatcaaaca cacaagaggg tgtggcctgc ttctcagcga  
1920  
gacgtattat atctttctgt cattcgaaag ataccagcct tgactgaaaa tgaccctgaa  
1980  
acttgatag tttgtaattt ttctgtggat catgacagtg ctctctctaa caaccgatgt  
2040  
gtccgtgcc aataaatgt tgctatgatt tgtcaaacct tggtaagccc accagagggg  
2100  
aaccaggaaa ttagcagga caacattcta tgcaagatta catatgtagc taatgtgaac  
2160  
cctggaggat gggcaccagc ctcaagtgtta agggcagtgg caaagcgaga gtatccctaa  
2220  
tttctaaaac gttttacttc ttacgtccaa gaaaaaactg caggaaagcc tattttgttc  
2280  
tagtattaac aggtactaga agatatgttt tatctttttt taactttatt tgactaatat  
2340  
gactgtcaat actaaaattt agttgttgaa agtatcttact atgtttttt  
2389

&lt;210&gt; 3366

&lt;211&gt; 624

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3366

```

Met Ser Asp Asn Gln Asn Trp Asn Ser Ser Gly Ser Glu Glu Asp Pro
 1           5           10           15
Glu Thr Glu Ser Gly Pro Pro Val Glu Arg Cys Gly Val Leu Ser Lys
          20           25           30
Trp Thr Asn Tyr Ile His Gly Trp Gln Asp Arg Trp Val Val Leu Lys
          35           40           45
Asn Asn Ala Leu Ser Tyr Tyr Lys Ser Glu Asp Glu Thr Glu Tyr Gly
 50           55           60
Cys Arg Gly Ser Ile Cys Leu Ser Lys Ala Val Ile Thr Pro His Asp
65           70           75           80
Phe Asp Glu Cys Arg Phe Asp Ile Ser Val Asn Asp Ser Val Trp Tyr
          85           90           95
Leu Arg Ala Gln Asp Pro Asp His Arg Gln Gln Trp Ile Asp Ala Ile
          100          105          110
Glu Gln His Lys Thr Glu Ser Gly Tyr Gly Ser Glu Ser Ser Leu Arg
          115          120          125
Arg His Gly Ser Met Val Ser Leu Val Ser Gly Ala Ser Gly Tyr Ser
          130          135          140
Ala Thr Ser Thr Ser Ser Phe Lys Lys Gly His Ser Leu Arg Glu Lys
145           150           155           160
Leu Ala Glu Met Glu Thr Phe Arg Asp Ile Leu Cys Arg Gln Val Asp
          165          170          175
Thr Leu Gln Lys Tyr Phe Asp Ala Cys Ala Asp Ala Val Ser Lys Asp
          180          185          190
Glu Leu Gln Arg Asp Lys Val Val Glu Asp Asp Glu Asp Asp Phe Pro
          195          200          205
Thr Thr Arg Ser Asp Gly Asp Phe Leu His Ser Thr Asn Gly Asn Lys
          210          215          220
Glu Lys Leu Phe Pro His Val Thr Pro Lys Gly Ile Asn Gly Ile Asp
225           230           235           240
Phe Lys Gly Glu Ala Ile Thr Phe Lys Ala Thr Thr Ala Gly Ile Leu
          245          250          255
Ala Thr Leu Ser His Cys Ile Glu Leu Met Val Lys Arg Glu Asp Ser
          260          265          270
Trp Gln Lys Arg Leu Asp Lys Glu Thr Glu Lys Lys Arg Arg Thr Glu
          275          280          285
Glu Ala Tyr Lys Asn Ala Met Thr Glu Leu Lys Lys Lys Ser His Phe
          290          295          300
Gly Gly Pro Asp Tyr Glu Glu Gly Pro Asn Ser Leu Ile Asn Glu Glu
305           310           315           320
Glu Phe Phe Asp Ala Val Glu Ala Ala Leu Asp Arg Gln Asp Lys Ile
          325          330          335
Glu Glu Gln Ser Gln Ser Glu Lys Val Arg Leu His Trp Pro Thr Ser
          340          345          350
Leu Pro Ser Gly Asp Ala Phe Ser Ser Val Gly Thr His Arg Phe Val
          355          360          365
Gln Lys Pro Tyr Ser Arg Ser Ser Ser Met Ser Ser Ile Asp Leu Val
          370          375          380
Ser Ala Ser Asp Asp Val His Arg Phe Ser Ser Gln Val Glu Glu Met

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|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     | 400 |     |
| Val | Gln | Asn | His | Met | Thr | Tyr | Ser | Leu | Gln | Asp | Val | Gly | Gly | Asp | Ala |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Asn | Trp | Gln | Leu | Val | Val | Glu | Glu | Gly | Glu | Met | Lys | Val | Tyr | Arg | Arg |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     |     | 430 |     |
| Glu | Val | Glu | Glu | Asn | Gly | Ile | Val | Leu | Asp | Pro | Leu | Lys | Ala | Thr | His |
|     |     |     | 435 |     |     |     | 440 |     |     |     |     |     | 445 |     |     |
| Ala | Val | Lys | Gly | Val | Thr | Gly | His | Glu | Val | Cys | Asn | Tyr | Phe | Trp | Asn |
|     |     |     | 450 |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Val | Asp | Val | Arg | Asn | Asp | Trp | Glu | Thr | Thr | Ile | Glu | Asn | Phe | His | Val |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Val | Glu | Thr | Leu | Ala | Asp | Asn | Ala | Ile | Ile | Ile | Tyr | Gln | Thr | His | Lys |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |
| Arg | Val | Trp | Pro | Ala | Ser | Gln | Arg | Asp | Val | Leu | Tyr | Leu | Ser | Val | Ile |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     |     | 510 |     |
| Arg | Lys | Ile | Pro | Ala | Leu | Thr | Glu | Asn | Asp | Pro | Glu | Thr | Trp | Ile | Val |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     |     | 525 |     |     |
| Cys | Asn | Phe | Ser | Val | Asp | His | Asp | Ser | Ala | Pro | Leu | Asn | Asn | Arg | Cys |
|     |     | 530 |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |
| Val | Arg | Ala | Lys | Ile | Asn | Val | Ala | Met | Ile | Cys | Gln | Thr | Leu | Val | Ser |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |
| Pro | Pro | Glu | Gly | Asn | Gln | Glu | Ile | Ser | Arg | Asp | Asn | Ile | Leu | Cys | Lys |
|     |     |     |     | 565 |     |     |     |     | 570 |     |     |     |     | 575 |     |
| Ile | Thr | Tyr | Val | Ala | Asn | Val | Asn | Pro | Gly | Gly | Trp | Ala | Pro | Ala | Ser |
|     |     |     | 580 |     |     |     | 585 |     |     |     |     |     | 590 |     |     |
| Val | Leu | Arg | Ala | Val | Ala | Lys | Arg | Glu | Tyr | Pro | Lys | Phe | Leu | Lys | Arg |
|     |     | 595 |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |
| Phe | Thr | Ser | Tyr | Val | Gln | Glu | Lys | Thr | Ala | Gly | Lys | Pro | Ile | Leu | Phe |
|     | 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |

&lt;210&gt; 3367

&lt;211&gt; 366

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3367

acgcgtgcag gagaggagag gccaggagat agggagggca gtttgtggat tgaaatgacc  
60

gagaattacg ccacagaggt gttggaggct ggcacgtgg catctcagga gcacggaggg  
120

tgccttcccc acttcaggcc tcttagtgct aaggatgtga gaggcaaggg ctgctgggag  
180

agtattttac ggactgaagg aggcgtgccg cctgccctgc cctcctactg gtggaggaag  
240

gaggtgctgg gagccccaca actcagggcc ccccgacgcc cagtaaggcc actgtacacc  
300

cctcctgacc cagaccataa ccagcctccg attgtgcttt tgacctgtt tccttcaggc  
360

accagg

366

&lt;210&gt; 3368

&lt;211&gt; 104

&lt;212&gt; PRT

<213> Homo sapiens

<400> 3368

```

Met Thr Glu Asn Tyr Ala Thr Glu Val Leu Glu Ala Gly Ile Val Ala
 1             5             10             15
Ser Gln Glu His Gly Gly Cys Leu Pro His Phe Arg Pro Leu Ser Val
             20             25             30
Lys Asp Val Arg Gly Lys Gly Cys Trp Glu Ser Ile Leu Arg Thr Glu
             35             40             45
Gly Gly Val Pro Pro Ala Leu Pro Ser Tyr Trp Trp Arg Lys Glu Val
             50             55             60
Leu Gly Ala Pro Gln Leu Arg Ala Pro Arg Arg Pro Val Arg Pro Leu
65             70             75             80
Tyr Thr Pro Pro Asp Pro Asp His Asn Gln Pro Pro Ile Val Leu Leu
             85             90             95
Thr Leu Phe Pro Ser Gly Thr Arg
             100

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<210> 3369

<211> 1405

<212> DNA

<213> Homo sapiens

<400> 3369

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<210> 3370

<211> 269

<212> PRT

<213> Homo sapiens

<400> 3370

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Val | Pro | Gly | Lys | Ser | Phe | Gln | Gln | Gln | Arg | Glu | Ala | Met | Lys | Gln |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Thr | Ile | Glu | Glu | Asp | Lys | Glu | Gln | Lys | Asn | Gln | Glu | Asn | Cys | Gly | Ala |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Lys | Lys | Asn | Lys | Lys | Lys | Arg | Lys | Lys | Val | Leu | Tyr | Asn | Ala | Asn | Lys |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asn | Asp | Asp | Tyr | Asp | Asn | Glu | Glu | Ile | Leu | Thr | Tyr | Glu | Glu | Met | Ser |
|     | 50  |     |     |     | 55  |     |     |     |     |     | 60  |     |     |     |     |
| Leu | Tyr | His | Gln | Pro | Ala | Asn | Arg | Lys | Arg | Pro | Ile | Ile | Leu | Ile | Gly |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |
| Pro | Gln | Asn | Cys | Gly | Gln | Asn | Glu | Leu | Arg | Gln | Arg | Leu | Met | Asn | Lys |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Glu | Lys | Asp | Arg | Phe | Ala | Ser | Ala | Val | Pro | His | Thr | Thr | Arg | Ser | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Arg | Asp | Gln | Glu | Val | Ala | Gly | Arg | Asp | Tyr | His | Phe | Val | Ser | Arg | Gln |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Ala | Phe | Glu | Ala | Asp | Ile | Ala | Ala | Gly | Lys | Phe | Ile | Glu | His | Gly | Glu |
|     | 130 |     |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |
| Phe | Glu | Lys | Asn | Leu | Tyr | Gly | Thr | Ser | Ile | Asp | Ser | Val | Arg | Gln | Val |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     |     | 160 |
| Ile | Asn | Ser | Gly | Lys | Ile | Cys | Leu | Leu | Ser | Leu | Arg | Thr | Gln | Ser | Leu |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Lys | Thr | Leu | Arg | Asn | Ser | Asp | Leu | Lys | Pro | Tyr | Ile | Ile | Phe | Ile | Ala |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Pro | Pro | Ser | Gln | Glu | Arg | Leu | Arg | Ala | Leu | Leu | Ala | Lys | Glu | Gly | Lys |
|     |     | 195 |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Asn | Pro | Lys | Pro | Glu | Glu | Leu | Arg | Glu | Ile | Ile | Glu | Lys | Thr | Arg | Glu |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Met | Glu | Gln | Asn | Asn | Gly | His | Tyr | Phe | Asp | Thr | Ala | Ile | Val | Asn | Ser |

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225                230                235                240
Asp Leu Asp Lys Ala Tyr Gln Glu Leu Leu Arg Leu Ile Asn Lys Leu
                245                250                255
Asp Thr Glu Pro Gln Trp Val Pro Ser Thr Trp Leu Arg
                260                265

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<210> 3371  
 <211> 790  
 <212> DNA  
 <213> Homo sapiens

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120
ggtttcaaaa gtccggtggc ctggggctgt atggtccac ccctggggg ggttgaggaa
180
gttgctgtcg tctgaggtag tgccgtacgt gtagtcctgg tcccgccttt tgccctggcc
240
aaagaagcac caaggagaca tctggaccac caggetgcac accaaccctt cccagaccg
300
cgattccgac aagagacggg gcacccttca ttgcaaagag atttcccag atcctttctc
360
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420
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480
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540
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600
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660
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720
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780
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790

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<210> 3372  
 <211> 198  
 <212> PRT  
 <213> Homo sapiens

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<400> 3372
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1          5          10          15
Glu Ala Pro Arg Glu His Leu Asp His Gln Ala Ala His Gln Pro Phe
20          25          30
Pro Arg Pro Arg Phe Arg Gln Glu Thr Gly His Pro Ser Leu Gln Arg
35          40          45
Asp Phe Pro Arg Ser Phe Leu Leu Asp Leu Pro Asn Phe Pro Asp Leu

```

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      50              55              60
Ser Lys Ala Asp Ile Asn Gly Gln Asn Pro Asn Ile Gln Val Thr Ile
65              70              75              80
Glu Val Val Asp Gly Pro Asp Ser Glu Ala Asp Lys Asp Gln His Pro
      85              90              95
Glu Asn Lys Pro Ser Trp Ser Val Pro Ser Pro Asp Trp Arg Ala Trp
      100             105             110
Trp Gln Arg Ser Leu Ser Leu Ala Arg Ala Asn Ser Gly Asp Gln Asp
      115             120             125
Tyr Lys Tyr Asp Ser Thr Ser Asp Asp Ser Asn Phe Leu Asn Pro Pro
      130             135             140
Arg Gly Trp Asp His Thr Ala Pro Gly His Arg Thr Phe Glu Thr Lys
145             150             155             160
Asp Gln Pro Glu Tyr Asp Ser Thr Asp Gly Glu Gly Asp Trp Ser Leu
      165             170             175
Trp Ser Val Cys Ser Val Thr Cys Gly Asn Gly Asn Gln Lys Arg Thr
      180             185             190
Arg Ser Cys Gly Tyr Ala
      195

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&lt;210&gt; 3373

&lt;211&gt; 726

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3373

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120
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240
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300
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360
cacgagcttg ggaaggacat gtcggaggcc ggcgcctgtg cgggcagaag ctgtgtcctc
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480
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540
ccgtttgtgg agccgctgct taacttcac tggttcctgc tgctggctgt ggacgggtgc
600
gtcttgggat cctgcagggg gagggggctg tgaatgtgcg ggttgtgtgt agacgtggtg
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atgcat
726

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&lt;210&gt; 3374

<211> 84  
 <212> PRT  
 <213> Homo sapiens

<400> 3374  
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 20 25 30  
 Lys Ser Ser Ala Ser Val Val Phe Thr Thr Tyr Thr Gln Lys His Pro  
 35 40 45  
 Ser Ile Glu Asp Gly Pro Pro Phe Val Glu Pro Leu Leu Asn Phe Ile  
 50 55 60  
 Trp Phe Leu Leu Leu Ala Val Asp Gly Cys Val Leu Gly Ser Cys Arg  
 65 70 75 80  
 Gly Arg Gly Leu

<210> 3375  
 <211> 393  
 <212> DNA  
 <213> Homo sapiens

<400> 3375  
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 120  
 agccacctgc ctgggctttg gggggcccagc cgccatgggg agccccaggc tccagctggc  
 180  
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 240  
 ctggtactgt gcgcagcccc cacctggcag ccccttttcc tgtcaaagcc cctcccagcg  
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 393

<210> 3376  
 <211> 103  
 <212> PRT  
 <213> Homo sapiens

<400> 3376  
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 Ala His Thr Leu Ser Thr His Thr Pro Ser Cys Arg Leu Ser Pro Thr  
 20 25 30  
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 35 40 45  
 Pro Gly Ser Ser Trp Pro Arg Leu Ala Leu Lys Ser Arg Pro Gly Cys  
 50 55 60  
 Arg Ala Arg Ser Ala Ala Ser Gly Ala Pro Gly Thr Val Arg Ser Pro

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65  |     | 70  |     | 75  |     | 80  |     |     |     |     |     |     |     |     |     |
| His | Leu | Ala | Ala | Pro | Phe | Pro | Val | Lys | Ala | Pro | Pro | Ser | Val | Leu | Ser |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Pro | Pro | Gly | Lys | Leu | Pro | Ala |     |     |     |     |     |     |     |     |     |
|     |     |     |     | 100 |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 3377

&lt;211&gt; 5235

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3377

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300
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1260

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 5235

<210> 3378

<211> 970

<212> PRT

<213> Homo sapiens

<400> 3378

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Leu | Cys | Phe | Leu | Asp | Asp | Gly | Ala | Gly | Met | Asp | Pro | Ser | Asp | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Ser | Val | Ile | Gln | Phe | Gly | Lys | Ser | Ala | Lys | Arg | Thr | Pro | Glu | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Thr | Gln | Ile | Gly | Gln | Tyr | Gly | Asn | Gly | Leu | Lys | Ser | Gly | Ser | Met | Arg |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ile | Gly | Lys | Asp | Phe | Ile | Leu | Phe | Thr | Lys | Lys | Glu | Asp | Thr | Met | Thr |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Cys | Leu | Phe | Leu | Ser | Arg | Thr | Phe | His | Glu | Glu | Glu | Gly | Ile | Asp | Glu |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Val | Ile | Val | Pro | Leu | Pro | Thr | Trp | Asn | Ala | Arg | Thr | Arg | Glu | Pro | Val |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Thr | Asp | Asn | Val | Glu | Lys | Phe | Ala | Ile | Glu | Thr | Glu | Leu | Ile | Tyr | Lys |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Tyr | Ser | Pro | Phe | Arg | Thr | Glu | Glu | Glu | Val | Met | Thr | Gln | Phe | Met | Lys |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ile | Pro | Gly | Asp | Ser | Gly | Thr | Leu | Val | Ile | Ile | Phe | Asn | Leu | Lys | Leu |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Met | Asp | Asn | Gly | Glu | Pro | Glu | Leu | Asp | Ile | Ile | Ser | Asn | Pro | Arg | Asp |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Ile | Gln | Met | Ala | Glu | Thr | Ser | Pro | Glu | Gly | Thr | Lys | Pro | Glu | Arg | Arg |

2558

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 595 |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |     |     |
| Pro | Glu | Ala | Pro | Arg | Lys | Pro | Ala | Asn | Thr | Leu | Val | Lys | Thr | Ala | Ser |
| 610 |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |     |
| Arg | Pro | Ala | Pro | Leu | Val | Gln | Gln | Leu | Ser | Pro | Ser | Leu | Leu | Pro | Asn |
| 625 |     |     |     |     | 630 |     |     |     |     | 635 |     |     |     |     |     |
| Ser | Lys | Ser | Pro | Arg | Glu | Val | Pro | Ser | Pro | Lys | Val | Ile | Lys | Thr | Pro |
| 645 |     |     |     |     | 650 |     |     |     |     | 655 |     |     |     |     |     |
| Val | Val | Lys | Lys | Thr | Glu | Ser | Pro | Ile | Lys | Leu | Ser | Pro | Ala | Thr | Pro |
| 660 |     |     |     |     | 665 |     |     |     |     | 670 |     |     |     |     |     |
| Ser | Arg | Lys | Arg | Ser | Val | Ala | Val | Ser | Asp | Glu | Glu | Glu | Val | Glu | Glu |
| 675 |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |     |     |
| Glu | Ala | Glu | Arg | Arg | Lys | Glu | Arg | Cys | Lys | Arg | Gly | Arg | Phe | Val | Val |
| 690 |     |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |     |
| Lys | Glu | Glu | Lys | Lys | Asp | Ser | Asn | Glu | Leu | Ser | Asp | Ser | Ala | Gly | Gly |
| 705 |     |     |     |     | 710 |     |     |     |     | 715 |     |     |     |     |     |
| Glu | Asp | Ser | Ala | Asp | Leu | Lys | Arg | Ala | Gln | Lys | Asp | Lys | Gly | Leu | His |
| 725 |     |     |     |     | 730 |     |     |     |     | 735 |     |     |     |     |     |
| Val | Glu | Val | Arg | Val | Asn | Arg | Glu | Trp | Tyr | Thr | Gly | Arg | Val | Thr | Ala |
| 740 |     |     |     |     | 745 |     |     |     |     | 750 |     |     |     |     |     |
| Val | Glu | Val | Gly | Lys | His | Val | Val | Arg | Trp | Lys | Val | Lys | Phe | Asp | Tyr |
| 755 |     |     |     |     | 760 |     |     |     |     | 765 |     |     |     |     |     |
| Val | Pro | Thr | Asp | Thr | Thr | Pro | Arg | Asp | Arg | Trp | Val | Glu | Lys | Gly | Ser |
| 770 |     |     |     |     | 775 |     |     |     |     | 780 |     |     |     |     |     |
| Glu | Asp | Val | Arg | Leu | Met | Lys | Pro | Pro | Ser | Pro | Glu | His | Gln | Ser | Leu |
| 785 |     |     |     |     | 790 |     |     |     |     | 795 |     |     |     |     |     |
| Asp | Thr | Gln | Gln | Glu | Gly | Gly | Glu | Glu | Glu | Val | Gly | Pro | Val | Ala | Gln |
| 805 |     |     |     |     | 810 |     |     |     |     | 815 |     |     |     |     |     |
| Gln | Ala | Ile | Ala | Val | Ala | Glu | Pro | Ser | Thr | Ser | Glu | Cys | Leu | Arg | Ile |
| 820 |     |     |     |     | 825 |     |     |     |     | 830 |     |     |     |     |     |
| Glu | Pro | Asp | Thr | Thr | Ala | Leu | Ser | Thr | Asn | His | Glu | Thr | Ile | Asp | Leu |
| 835 |     |     |     |     | 840 |     |     |     |     | 845 |     |     |     |     |     |
| Leu | Val | Gln | Ile | Leu | Arg | Asn | Cys | Leu | Arg | Tyr | Phe | Leu | Pro | Pro | Ser |
| 850 |     |     |     |     | 855 |     |     |     |     | 860 |     |     |     |     |     |
| Phe | Pro | Ile | Ser | Lys | Lys | Gln | Leu | Ser | Ala | Met | Asn | Ser | Asp | Glu | Leu |
| 865 |     |     |     |     | 870 |     |     |     |     | 875 |     |     |     |     |     |
| Ile | Ser | Phe | Pro | Leu | Lys | Glu | Tyr | Phe | Lys | Gln | Tyr | Glu | Val | Gly | Leu |
| 885 |     |     |     |     | 890 |     |     |     |     | 895 |     |     |     |     |     |
| Gln | Asn | Leu | Cys | Asn | Ser | Tyr | Gln | Ser | Arg | Ala | Asp | Ser | Arg | Ala | Lys |
| 900 |     |     |     |     | 905 |     |     |     |     | 910 |     |     |     |     |     |
| Ala | Ser | Glu | Glu | Ser | Leu | Arg | Thr | Ser | Glu | Arg | Lys | Leu | Arg | Glu | Thr |
| 915 |     |     |     |     | 920 |     |     |     |     | 925 |     |     |     |     |     |
| Glu | Glu | Lys | Leu | Gln | Lys | Leu | Arg | Thr | Asn | Ile | Val | Ala | Leu | Leu | Gln |
| 930 |     |     |     |     | 935 |     |     |     |     | 940 |     |     |     |     |     |
| Lys | Val | Gln | Glu | Asp | Ile | Asp | Ile | Asn | Thr | Asp | Asp | Glu | Leu | Asp | Ala |
| 945 |     |     |     |     | 950 |     |     |     |     | 955 |     |     |     |     |     |
| Tyr | Ile | Glu | Asp | Leu | Ile | Thr | Lys | Gly | Asp |     |     |     |     |     |     |
| 965 |     |     |     |     | 970 |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 3379

&lt;211&gt; 898

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3379

nagatctggg ctgaaacacg gttggtgctg atggccacag acagagggag cccagccctg  
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 gtgggctcag ctacccttgac ggtgatggtc atcgacacca atggcaatcg cccaccatc  
 120  
 ccccaaccct gggagctccg agtgtcagaa gatgcgttat tgggctcaga gattgcacag  
 180  
 gtaacaggga atgatgtgga ctcaggaccc gtgctgtggt atgtgctaag cccatctggg  
 240  
 ccccaggatc ccttcagtgt tggccgctat ggaggccgtg tctccctcac ggggcccctg  
 300  
 gactttgagc agtgtgaccg ctaccagctg cagctgctgg cacatgatgg gcctcatgag  
 360  
 ggccgtgcan acctcacagt gcttgtggag gatgtcaatg acaatgcacc tgccttctca  
 420  
 cagagcctct accaggtaat gctgcttgag cacacacccc caggcagtgc cattctctcc  
 480  
 gtctctgcc a ctgatcggga ctcagggtgcc aacggtcaca ttctctacca cctggcttcc  
 540  
 cctgccgatg gcttcagtgt tgaccccaac aatgggaccc tgttcacaat agtgggaaca  
 600  
 ttggccttgg gccatgacgg gtcaggagca gtggatgtgg tgctggaagc acgagaccac  
 660  
 ggggctccag tccgggcagc acgagccaca gtgaacgtgc agctgcggga ccagaacgac  
 720  
 cagcctccga gcttcacatt gttccactac cgtgtggctg tgactgaaga cctgccccct  
 780  
 ggctccactc tgctaaccct ggaggctaca gatgctgatg gaagccgcag ccatgccgct  
 840  
 gtggattaca gcatcatcag tggcaactgg ggccgagtct tccagctgga acccaggc  
 898

<210> 3380

<211> 299

<212> PRT

<213> Homo sapiens

<400> 3380

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Ile | Trp | Ala | Glu | Thr | Arg | Leu | Val | Leu | Met | Ala | Thr | Asp | Arg | Gly |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Pro | Ala | Leu | Val | Gly | Ser | Ala | Thr | Leu | Thr | Val | Met | Val | Ile | Asp |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Thr | Asn | Gly | Asn | Arg | Pro | Thr | Ile | Pro | Gln | Pro | Trp | Glu | Leu | Arg | Val |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ser | Glu | Asp | Ala | Leu | Leu | Gly | Ser | Glu | Ile | Ala | Gln | Val | Thr | Gly | Asn |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asp | Val | Asp | Ser | Gly | Pro | Val | Leu | Trp | Tyr | Val | Leu | Ser | Pro | Ser | Gly |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Pro | Gln | Asp | Pro | Phe | Ser | Val | Gly | Arg | Tyr | Gly | Gly | Arg | Val | Ser | Leu |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Thr | Gly | Pro | Leu | Asp | Phe | Glu | Gln | Cys | Asp | Arg | Tyr | Gln | Leu | Gln | Leu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu | Ala | His | Asp | Gly | Pro | His | Glu | Gly | Arg | Ala | Xaa | Leu | Thr | Val | Leu |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Val | Glu | Asp | Val | Asn | Asp | Asn | Ala | Pro | Ala | Phe | Ser | Gln | Ser | Leu | Tyr |

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      130              135              140
Gln Val Met Leu Leu Glu His Thr Pro Pro Gly Ser Ala Ile Leu Ser
145              150              155              160
Val Ser Ala Thr Asp Arg Asp Ser Gly Ala Asn Gly His Ile Ser Tyr
      165              170              175
His Leu Ala Ser Pro Ala Asp Gly Phe Ser Val Asp Pro Asn Asn Gly
      180              185              190
Thr Leu Phe Thr Ile Val Gly Thr Leu Ala Leu Gly His Asp Gly Ser
      195              200              205
Gly Ala Val Asp Val Val Leu Glu Ala Arg Asp His Gly Ala Pro Val
      210              215              220
Arg Ala Ala Arg Ala Thr Val Asn Val Gln Leu Arg Asp Gln Asn Asp
225              230              235              240
His Ala Pro Ser Phe Thr Leu Phe His Tyr Arg Val Ala Val Thr Glu
      245              250              255
Asp Leu Pro Pro Gly Ser Thr Leu Leu Thr Leu Glu Ala Thr Asp Ala
      260              265              270
Asp Gly Ser Arg Ser His Ala Ala Val Asp Tyr Ser Ile Ile Ser Gly
      275              280              285
Asn Trp Gly Arg Val Phe Gln Leu Glu Pro Arg
      290              295

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&lt;210&gt; 3381

&lt;211&gt; 1379

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3381

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ntgccgctcg tgtcagtc aa catggaggca gaggaatcgg agaaggccgc aacggagcaa
60
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120
gaagcggcct gtggcagcaa gaaacgggta gtgccaggta ttgtgtacct gggccatata
180
ccgccgcgct tccggcccct gcacgtccgc aaccttctca ggccttatgg cgaggtcgga
240
cgcgtcttct ttcaggctga ggaccgggtc gtgagacgca agaagaaggc agcagcagct
300
gccggaggga aaaagcggtc ctacaccaag gactacaccg agggatgggt ggagttccgt
360
gacaagcgca tagccaagcg cgtggcggcc agtctacaca acacgcctat gggtgcccgc
420
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480
tcccacctca gcgagcacct cgcctttgag cgccagggtc gcaggcagcg cttgagagcg
540
gaggttgctc aagccaagcg tgagaccgac ttctatcttc aaagtgtgga acggggacaa
600
cgctttcttg cgccgatgg ggacctgct cgcccagatg gctcctggac atttgcccag
660
cgtcctactg agcaggaact gagggcccgt aaagcagcac ggccaggggg acgtgaacgg
720
gctcgcctgg caactgccca ggacaaggcc cgctccaaca aagggtcctt ggccaggatc
780

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tttggagccc cgccaccctc agagagcatg gagggacctt cccttgctcag ggactcctga
840
gggcctgggt ggccccctcc atttcctggc cctgctctgc ttctgtcta cctcatacta
900
gaatgatcgt gactaccggg gcagacattt tactgtgttt ctcagaccaa gtgtctactg
960
atggcccaaa catggagttt tgtgggcttc cactgtcccc actccgaact cctgtatgtg
1020
cctggctgag tcacctaat catactgtca tactagcata attatgacta ttgcatatgc
1080
ttgttttgtt tgactcttgg ctgcctacgt ctgtagggtc ccctgaaaat cccacttcct
1140
gccccagaa agggccttta tttccaacta ggaggataat gcctagtcca ggcaatcttt
1200
ctctgtttag cagtcacagg tgagggtggt attagcatct tttttatgta gaaaaaattg
1260
agttaatggg gtggactggg ttgggaagaa atacatttcc taatgtattt atagaaaata
1320
aaaatatattt tatgtgaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaa
1379

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&lt;210&gt; 3382

&lt;211&gt; 279

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3382

```

Xaa Pro Leu Val Ser Val Asn Met Glu Ala Glu Glu Ser Glu Lys Ala
1      5      10      15
Ala Thr Glu Gln Glu Pro Leu Glu Gly Thr Glu Gln Thr Leu Asp Ala
20      25      30
Glu Glu Glu Gln Glu Glu Ser Glu Glu Ala Ala Cys Gly Ser Lys Lys
35      40      45
Arg Val Val Pro Gly Ile Val Tyr Leu Gly His Ile Pro Pro Arg Phe
50      55      60
Arg Pro Leu His Val Arg Asn Leu Leu Ser Ala Tyr Gly Glu Val Gly
65      70      75      80
Arg Val Phe Phe Gln Ala Glu Asp Arg Phe Val Arg Arg Lys Lys Lys
85      90      95
Ala Ala Ala Ala Ala Gly Gly Lys Lys Arg Ser Tyr Thr Lys Asp Tyr
100     105     110
Thr Glu Gly Trp Val Glu Phe Arg Asp Lys Arg Ile Ala Lys Arg Val
115     120     125
Ala Ala Ser Leu His Asn Thr Pro Met Gly Ala Arg Arg Arg Ser Pro
130     135     140
Phe Arg Tyr Asp Leu Trp Asn Leu Lys Tyr Leu His Arg Phe Thr Trp
145     150     155     160
Ser His Leu Ser Glu His Leu Ala Phe Glu Arg Gln Val Arg Arg Gln
165     170     175
Arg Leu Arg Ala Glu Val Ala Gln Ala Lys Arg Glu Thr Asp Phe Tyr
180     185     190
Leu Gln Ser Val Glu Arg Gly Gln Arg Phe Leu Ala Ala Asp Gly Asp
195     200     205
Pro Ala Arg Pro Asp Gly Ser Trp Thr Phe Ala Gln Arg Pro Thr Glu

```

|   |     |     |     |     |
|---|-----|-----|-----|-----|
| 210   |     | 215 |     | 220 |
| Gln Glu Leu Arg Ala Arg Lys Ala Ala Arg Pro Gly Gly Arg Glu Arg |     |     |     |     |
| 225   |     | 230 |     | 240 |
| Ala Arg Leu Ala Thr Ala Gln Asp Lys Ala Arg Ser Asn Lys Gly Leu |     |     |     |     |
|   | 245 |     | 250 | 255 |
| Leu Ala Arg Ile Phe Gly Ala Pro Pro Pro Ser Glu Ser Met Glu Gly |     |     |     |     |
|   | 260 | 265 |     | 270 |
| Pro Ser Leu Val Arg Asp Ser                                     |     |     |     |     |
| 275   |     |     |     |     |

<210> 3383  
 <211> 309  
 <212> DNA  
 <213> Homo sapiens

<400> 3383  
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 60  
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 120  
 aaatgtctcac ttcttaacct cttttgtect ggagcataga attactgcaa atgtcacc  
 180  
 ctgggagctg tcttgcccc gatctccac acaaacactc cagcatgaaa gagcgagact  
 240  
 caatctcaaa aaaaaaaagt ttcgggcacc tgaacaggaa ctggtttcca tcatcaactc  
 300  
 agaaagccc  
 309

<210> 3384  
 <211> 94  
 <212> PRT  
 <213> Homo sapiens

|   |
|---|
| <400> 3384  |
| Met Leu Ala His His Gly Ser Arg Glu Lys Cys Gln Cys Cys Leu His |
| 1 5 10 15   |
| Thr Asn Phe Val Ala Gly Val Ser Ile Val Val Ile Cys Val Ile Gly |
| 20 25 30  |
| Asn Ala His Phe Leu Thr Ser Phe Val Leu Glu His Arg Ile Thr Ala |
| 35 40 45  |
| Asn Ala His Pro Trp Glu Leu Ser Cys Pro Arg Ser Pro Thr Gln Thr |
| 50 55 60  |
| Leu Gln His Glu Arg Ala Arg Leu Asn Leu Lys Lys Lys Phe Arg     |
| 65 70 75 80   |
| Ala Pro Glu Gln Glu Leu Val Ser Ile Ile Asn Ser Glu Ser         |
| 85 90   |

<210> 3385  
 <211> 720  
 <212> DNA  
 <213> Homo sapiens

<400> 3385

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 120  
 gtgaaaacag tgacgggtgcg ggggtgggga gcaactgcgtt ccactttcttc agccccccac  
 180  
 tatcctggaa gcttcagggg gggcccagag cagcctccag cttcagcgac caccctgtt  
 240  
 cctcttgcca gggtctttgt gaacttcccc tcggccaagc agtacttcag ccagttcaag  
 300  
 cacatggagg atccccctga gatggagcgg agccccagc tgcggaagca cgctgcccga  
 360  
 gtcattgggg cctcaacac tgcgtggag aacctgcatg accccgacaa ggtgtcctct  
 420  
 gtgctcgccc ttgtggggaa agcccacgcc ctcaagcaca aggtggaacc ggtgtacttc  
 480  
 aagatcctct ctgggggtcat tctggaggtg gtcgccgag aatttgccag tgacttccca  
 540  
 cctgagacgc agagagcctg ggccaagctg cgtggcctca tctacagcca cgtgaccgct  
 600  
 gctacaagg aagtgggctg ggtgcagcag gtccccaacg ccaccacccc accggccaca  
 660  
 ctgccctctt cggggccgta ggacccctcc ctccaccccc ctccctggca gcacctcgag  
 720

&lt;210&gt; 3386

&lt;211&gt; 188

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3386

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Val | Val | Lys | Thr | Val | Thr | Val | Arg | Gly | Trp | Gly | Ala | Leu | Arg | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Thr | Ser | Ser | Ala | Pro | His | Tyr | Pro | Gly | Ser | Phe | Arg | Val | Gly | Pro | Arg |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gln | Pro | Pro | Ala | Ser | Ala | Thr | Thr | Pro | Val | Pro | Leu | Ala | Arg | Phe | Phe |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Val | Asn | Phe | Pro | Ser | Ala | Lys | Gln | Tyr | Phe | Ser | Gln | Phe | Lys | His | Met |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Glu | Asp | Pro | Leu | Glu | Met | Glu | Arg | Ser | Pro | Gln | Leu | Arg | Lys | His | Ala |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Cys | Arg | Val | Met | Gly | Ala | Leu | Asn | Thr | Val | Val | Glu | Asn | Leu | His | Asp |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Pro | Asp | Lys | Val | Ser | Ser | Val | Leu | Ala | Leu | Val | Gly | Lys | Ala | His | Ala |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu | Lys | His | Lys | Val | Glu | Pro | Val | Tyr | Phe | Lys | Ile | Leu | Ser | Gly | Val |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ile | Leu | Glu | Val | Val | Ala | Glu | Glu | Phe | Ala | Ser | Asp | Phe | Pro | Pro | Glu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Thr | Gln | Arg | Ala | Trp | Ala | Lys | Leu | Arg | Gly | Leu | Ile | Tyr | Ser | His | Val |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Thr | Ala | Ala | Tyr | Lys | Glu | Val | Gly | Trp | Val | Gln | Gln | Val | Pro | Asn | Ala |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Thr | Thr | Pro | Pro | Ala | Thr | Leu | Pro | Ser | Ser | Gly | Pro |     |     |     |     |

180

185

&lt;210&gt; 3387

&lt;211&gt; 3299

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3387

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 120  
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<210> 3388

<211> 153

<212> PRT

<213> Homo sapiens

<400> 3388

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| Ser | Gly | Arg | Gly | Leu | Leu | Gly | Leu | Trp | Trp | Arg | Arg | Arg | Arg | Thr |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Gly | Val | Trp | Thr | Gln | Arg | Arg | Arg | Glu | His | Glu | Arg | Pro | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |
| Leu | Arg | Val | Val | Leu | Ala | Leu | Arg | Gly | Arg | Glu | Glu | Val | Ser | Asp |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     | Ala |
| Gly | Cys | Gly | Gly | Pro | Arg | Ile | Thr | Ile | Asn | Lys | Asp | Thr | Lys | Val |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     | Pro |
| Asn | Ala | Cys | Leu | Phe | Thr | Ile | Asn | Lys | Glu | Asp | His | Thr | Leu | Gly |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |
| Ile | Ile | Lys | Ser | Gln | Leu | Leu | Lys | Asp | Pro | Gln | Val | Leu | Phe | Ala |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Tyr | Lys | Val | Pro | His | Pro | Leu | Glu | His | Lys | Ile | Ile | Ile | Arg | Val |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 | Gln |
| Thr | Thr | Pro | Asp | Tyr | Ser | Pro | Gln | Glu | Ala | Phe | Thr | Asn | Ala | Ile |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     | Thr |
| Asp | Leu | Ile | Ser | Glu | Leu | Ser | Leu | Leu | Glu | Glu | Arg | Phe | Arg | Val |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     | Ala |
| Ile | Lys | Asp | Lys | Gln | Glu | Gly | Ile | Glu |     |     |     |     |     |     |
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<211> 308

<212> DNA

<213> Homo sapiens

<400> 3389

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<210> 3390  
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<212> PRT  
<213> Homo sapiens

<400> 3390  
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35 40 45  
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50 55 60  
Ser Asp Gln Pro His Gly Leu Leu Arg Ala Gly Gly Trp Gly Gly Glu  
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<210> 3391  
<211> 1295  
<212> DNA  
<213> Homo sapiens

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<210> 3392

<211> 355

<212> PRT

<213> Homo sapiens

<400> 3392

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Val | Phe | Leu | Leu | Tyr | Leu | Glu | Thr | Cys | Leu | Glu | Val | Met | Asp | Asp |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Lys | Pro | Asn | Pro | Glu | Ala | Leu | Ser | Asp | Ser | Ser | Glu | Arg | Leu | Phe | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Phe | Gly | Val | Ile | Ala | Asp | Val | Gln | Phe | Ala | Asp | Leu | Glu | Asp | Gly | Phe |
|     | 35  |     |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Asn | Phe | Gln | Gly | Thr | Arg | Arg | Arg | Tyr | Tyr | Arg | His | Ser | Leu | Leu | His |
|     | 50  |     |     |     | 55  |     |     |     |     |     | 60  |     |     |     |     |
| Leu | Gln | Gly | Ala | Ile | Glu | Asp | Trp | Asn | Asn | Glu | Ser | Ser | Met | Pro | Cys |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Cys | Val | Leu | Gln | Leu | Gly | Asp | Ile | Ile | Asp | Gly | Tyr | Asn | Ala | Gln | Tyr |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Asn | Ala | Ser | Lys | Lys | Ser | Leu | Glu | Leu | Val | Met | Asp | Met | Phe | Lys | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu | Lys | Val | Pro | Val | His | His | Thr | Trp | Gly | Asn | His | Glu | Phe | Tyr | Asn |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Phe | Ser | Arg | Glu | Tyr | Leu | Thr | His | Ser | Lys | Leu | Asn | Thr | Lys | Phe | Leu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Glu | Asp | Gln | Ile | Val | His | His | Pro | Glu | Thr | Met | Pro | Ser | Glu | Asp | Tyr |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Tyr | Ala | Tyr | His | Phe | Val | Pro | Phe | Pro | Lys | Phe | Arg | Phe | Ile | Leu | Leu |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Asp | Ala | Tyr | Asp | Leu | Ser | Val | Leu | Gly | Val | Asp | Gln | Ser | Ser | Pro | Lys |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Tyr | Glu | Gln | Cys | Met | Lys | Ile | Leu | Arg | Glu | His | Asn | Pro | Asn | Thr | Glu |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Leu | Asn | Ser | Pro | Gln | Gly | Leu | Ser | Glu | Pro | Gln | Phe | Val | Gln | Phe | Asn |

|   |     |     |     |     |
|---|-----|-----|-----|-----|
| 210   |     | 215 |     | 220 |
| Gly Gly Phe Ser Gln Glu Gln Leu Asn Trp Leu Asn Glu Val Leu Thr |     |     |     |     |
| 225   |     | 230 |     | 240 |
| Phe Ser Asp Thr Asn Gln Glu Lys Val Val Ile Val Ser His Leu Pro |     |     |     |     |
|   | 245 |     | 250 | 255 |
| Ile Tyr Pro Asp Ala Ser Asp Asn Val Cys Leu Ala Trp Asn Tyr Arg |     |     |     |     |
|   | 260 |     | 265 | 270 |
| Asp Ala Leu Ala Val Ile Trp Ser His Glu Cys Val Val Cys Phe Phe |     |     |     |     |
|   | 275 |     | 280 | 285 |
| Ala Gly His Thr His Asp Gly Gly Tyr Ser Glu Asp Pro Phe Gly Val |     |     |     |     |
|   | 290 |     | 295 | 300 |
| Tyr His Val Asn Leu Glu Gly Val Ile Glu Thr Ala Pro Asp Ser Gln |     |     |     |     |
| 305   |     | 310 |     | 320 |
| Ala Phe Gly Thr Val His Val Tyr Pro Asp Lys Met Met Leu Lys Gly |     |     |     |     |
|   | 325 |     | 330 | 335 |
| Arg Gly Arg Val Pro Asp Arg Ile Met Asn Tyr Lys Lys Glu Arg Ala |     |     |     |     |
|   | 340 |     | 345 | 350 |
| Phe His Cys   |     |     |     |     |
| 355   |     |     |     |     |

&lt;210&gt; 3393

&lt;211&gt; 510

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3393

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&lt;210&gt; 3394

&lt;211&gt; 170

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3394

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2571

<210> 3396  
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 <213> Homo sapiens

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 Leu Asn Asp Thr Tyr His Ser Arg Asp Ser Ser Phe Arg Leu Asp Ser  
           35                  40                  45  
 Glu Tyr Gln Ser Thr Ser Ala Ser Ala Ser Ala Ser Pro Phe Gln Ser  
           50                  55                  60  
 Ala Trp Tyr Ser Glu Ser Glu Ile Thr Gln Gly Ala Arg Ser Arg Ser  
   65                  70                  75                  80  
 Gln Asn Gln Gln Arg Asp His Asp Ser Lys Arg Pro Lys Leu Ser Cys  
                   85                  90                  95  
 Thr Asn Cys Thr Thr Ser Ala Gly Arg Asn Val Gly Asn Gly Leu Asn  
                   100                  105                  110  
 Thr Leu Ser Asp Ser Ser Trp Arg His Ser Gln Val Pro Arg Ser Ser  
           115                  120                  125  
 Ser Met Val Leu Gly Ser Phe Gly Thr Asp Leu Met Arg Glu Arg Arg  
           130                  135                  140  
 Asp Leu Glu Arg Arg Thr Asp Ser Ser Ile Ser Asn Leu Met Asp Tyr  
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 Ser His Arg Ser Gly Asp Phe Thr Thr Ser Ser Tyr Val Gln Asp Arg  
                   165                  170                  175  
 Val Pro Ser Tyr Ser Gln Gly Ala Arg Pro Lys Glu Asn Ser Met Ser  
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 <212> DNA  
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 <211> 163  
 <212> PRT  
 <213> Homo sapiens

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 Ala Ser Ala Ile Pro Ser Trp Leu Leu Asn Asp Pro Gly Val Glu Xaa  
 50 55 60  
 Glu Val Met Gly Asp Ala Val Leu Glu Ala Ser His Asn Val Gln Gly  
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 Cys Gly Cys Ser Trp Val Ser His Ser Gly Arg Gly Val Gly Pro Glu  
 85 90 95  
 Ala Glu Gly Ala Gly Ser Pro Gln Ser Leu Gly His Gly Ser Gly Gly  
 100 105 110  
 Trp Ala Ala Arg Arg Cys His Cys Leu Ser Val Ala Gly Val Ala Ala  
 115 120 125  
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 Arg Glu Gly Leu Ser Ser Pro Cys Ser Cys Ser Pro Gly Pro Pro Gly  
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 Lys Leu Gly

<210> 3399  
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 <212> DNA  
 <213> Homo sapiens

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| Ile | Ser | Leu | Leu | Ser | Ala | Leu | Asn | Glu | Glu | Arg | Leu | Lys | Gly | Gln | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Cys | Asp | Val | Leu | Leu | Ile | Val | Gly | Asp | Gln | Lys | Phe | Arg | Ala | His | Lys |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asn | Val | Leu | Ala | Ala | Ser | Ser | Glu | Tyr | Phe | Gln | Ser | Leu | Phe | Thr | Asn |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Lys | Glu | Asn | Glu | Ser | Gln | Thr | Val | Phe | Gln | Leu | Asp | Phe | Cys | Glu | Pro |
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| Asp | Ala | Phe | Asp | Asn | Val | Leu | Asn | Tyr | Ile | Tyr | Ser | Ser | Ser | Leu | Phe |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Val | Glu | Lys | Ser | Ser | Leu | Ala | Ala | Val | Gln | Glu | Leu | Gly | Tyr | Ser | Leu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gly | Ile | Ser | Phe | Leu | Thr | Asn | Ile | Val | Ser | Lys | Thr | Pro | Gln | Ala | Pro |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Phe | Pro | Thr | Cys | Pro | Asn | Arg | Lys | Lys | Val | Phe | Val | Glu | Asp | Asp | Glu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Asn | Ser | Ser | Gln | Lys | Arg | Ser | Val | Ile | Val | Cys | Gln | Ser | Arg | Asn | Glu |
| 145 |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     | 160 |     |
| Ala | Gln | Gly | Lys | Thr | Val | Ser | Gln | Asn | Gln | Pro | Asp | Val | Ser | His | Thr |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Ser | Arg | Pro | Ser | Pro | Ser | Ile | Ala | Val | Lys | Ala | Asn | Thr | Asn | Lys | Pro |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| His | Val | Pro | Lys | Pro | Ile | Glu | Pro | Leu | His | Asn | Leu | Ser | Leu | Thr | Glu |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Lys | Ser | Trp | Pro | Lys | Asp | Ser | Ser | Val | Val | Tyr | Ala | Lys | Ser | Leu | Glu |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| His | Ser | Gly | Ser | Leu | Asp | Asp | Pro | Asn | Arg | Ile | Ser | Leu | Val | Lys | Arg |

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Leu Ala Leu Lys Arg Pro Arg Pro Pro Val Leu Ser Val Cys Ser Ser
          275          280          285
Ser Glu Thr Pro Tyr Leu Leu Lys Glu Thr Asn Lys Gly Asn Gly Gln
          290          295          300
Gly Glu Asp Arg Asn Leu Leu Tyr Tyr Ser Lys Leu Gly Leu Val Ile
305          310          315          320
Pro Ser Ser Gly Ser Gly Ser Gly Asn Gln Ser Ile Asp Arg Ser Gly
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Val Pro Val Tyr Ser Pro Ser Ile Asp Leu Lys Ser Ser Gln Gly Ser
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Ser Ser Val Ser Ser Asp Ala Pro Gly Asn Val Leu Cys Ala Leu Ser
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Gln Lys Ser Ser Leu Lys Asp Cys Ser Glu Lys Thr Ala Leu Asp Asp
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Arg Pro Gln Val Leu Gln Pro His Arg Leu Arg Ser Phe Ser Ala Ser
          405          410          415
Gln Ser Thr Asp Arg Glu Gly Ala Ser Pro Val Thr Glu Val Arg Ile
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Lys Thr Glu Pro Ser Ser Pro Leu Ser Asp Pro Ser Asp Ile Ile Arg
          435          440          445
Val Thr Val Gly Asp Ala Ala Thr Thr Ala Ala Ala Ser Ser Ser Ser
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Val Thr Arg Asp Leu Ser Leu Lys Thr Glu Asp Asp Gln Lys Asp Met
465          470          475          480
Ser Arg Leu Pro Ala Lys Arg Arg Phe Gln Ala Asp Arg Arg Leu Pro
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Phe Lys Lys Leu Lys Val Asn Glu His Gly Ser Pro Val Ser Glu Asp
          500          505          510
Asn Phe Glu Glu Gly Ser Ser Pro Thr Leu Leu Asp Ala Asp Phe Pro
          515          520          525
Asp Ser Asp Leu Asn Lys Asp Glu Phe Gly Glu Leu Glu Gly Thr Arg
          530          535          540
Pro Asn Lys Lys Phe Lys Cys Lys His Cys Leu Lys Ile Phe Arg Ser
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Thr Ala Gly Leu His Arg His Val Asn Met Tyr His Asn Pro Glu Lys
          565          570          575
Pro Tyr Ala Cys Asp Ile Cys His Lys Arg Phe His Thr Asn Phe Lys
          580          585          590
Val Trp Thr His Cys Gln Thr Gln His Gly Ile Val Lys Asn Pro Ser
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Pro Ala Ser Ser Ser His Ala Val Leu Asp Glu Lys Phe Gln Arg Lys
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Leu Ile Asp Ile Val Arg Glu Arg Glu Ile Lys Lys Ala Leu Ile Ile
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Lys Leu Arg Arg Gly Lys Pro Gly Phe Gln Gly Gln Ser Ser Ser Gln
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Ala Gln Gln Val Ile Lys Arg Asn Leu Arg Ser Arg Ala Lys Gly Ala

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| Tyr  | Ile  | Cys | Thr | Tyr | Cys  | Gly  | Lys | Ala | Tyr | Arg  | Phe  | Leu | Ser | Gln | Phe |
| 675  |      |     |     |     | 680  |      |     |     |     | 685  |      |     |     |     |     |
| Lys  | Gln  | His | Ile | Lys | Met  | His  | Pro | Gly | Glu | Lys  | Pro  | Leu | Gly | Val | Asn |
| 690  |      |     |     |     | 695  |      |     |     |     | 700  |      |     |     |     |     |
| Lys  | Val  | Ala | Lys | Pro | Lys  | Glu  | His | Ala | Pro | Leu  | Ala  | Ser | Pro | Val | Glu |
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| Asn  | Lys  | Glu | Val | Tyr | Gln  | Cys  | Arg | Leu | Cys | Asn  | Ala  | Lys | Leu | Ser | Ser |
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| Leu  | Leu  | Glu | Gln | Gly | Ser  | His  | Glu | Arg | Leu | Cys  | Arg  | Asn | Ala | Ala | Val |
| 740  |      |     |     |     | 745  |      |     |     |     | 750  |      |     |     |     |     |
| Cys  | Pro  | Tyr | Cys | Ser | Leu  | Arg  | Phe | Phe | Ser | Pro  | Glu  | Leu | Lys | Gln | Glu |
| 755  |      |     |     |     | 760  |      |     |     |     | 765  |      |     |     |     |     |
| His  | Glu  | Ser | Lys | Cys | Glu  | Tyr  | Lys | Lys | Leu | Thr  | Cys  | Leu | Glu | Cys | Met |
| 770  | 775  |     |     |     |      | 780  |     |     |     |      |      |     |     |     |     |
| Arg  | Thr  | Phe | Lys | Ser | Ser  | Phe  | Ser | Ile | Trp | Arg  | His  | Gln | Val | Glu | Val |
| 785  | 790  |     |     |     |      | 795  |     |     |     |      | 800  |     |     |     |     |
| His  | Asn  | Gln | Asn | Asn | Met  | Ala  | Pro | Thr | Glu | Asn  | Phe  | Ser | Leu | Pro | Val |
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| Leu  | Asp  | His | Asn | Gly | Asp  | Val  | Thr | Gly | Ser | Ser  | Arg  | Pro | Gln | Ser | Gln |
| 820  |      |     |     |     | 825  |      |     |     |     | 830  |      |     |     |     |     |
| Pro  | Glu  | Pro | Asn | Lys | Val  | Asn  | His | Ile | Val | Thr  | Thr  | Lys | Asp | Asp | Asn |
| 835  |      |     |     |     | 840  |      |     |     |     | 845  |      |     |     |     |     |
| Val  | Phe  | Ser | Asp | Ser | Ser  | Glu  | Gln | Val | Asn | Phe  | Asp  | Ser | Glu | Asp | Ser |
| 850  | 855  |     |     |     |      | 860  |     |     |     |      |      |     |     |     |     |
| Ser  | Cys  | Leu | Pro | Glu | Asp  | Leu  | Ser | Leu | Ser | Lys  | Gln  | Leu | Lys | Ile | Gln |
| 865  | 870  |     |     |     |      | 875  |     |     |     |      | 880  |     |     |     |     |
| Val  | Lys  | Glu | Glu | Pro | Val  | Glu  | Glu | Ala | Glu | Glu  | Glu  | Ala | Pro | Glu | Ala |
| 885  |      |     |     |     | 890  |      |     |     |     | 895  |      |     |     |     |     |
| Ser  | Thr  | Ala | Pro | Lys | Glu  | Ala  | Gly | Pro | Ser | Lys  | Glu  | Ala | Ser | Leu | Trp |
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| Pro  | Cys  | Glu | Lys | Cys | Gly  | Lys  | Met | Phe | Thr | Val  | His  | Lys | Gln | Leu | Glu |
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| Arg  | His  | Gln | Glu | Leu | Leu  | Cys  | Ser | Val | Lys | Pro  | Phe  | Ile | Cys | His | Val |
| 930  | 935  |     |     |     |      | 940  |     |     |     |      |      |     |     |     |     |
| Cys  | Asn  | Lys | Ala | Phe | Arg  | Thr  | Asn | Phe | Arg | Leu  | Trp  | Ser | His | Phe | Gln |
| 945  | 950  |     |     |     |      | 955  |     |     |     |      | 960  |     |     |     |     |
| Ser  | His  | Met | Ser | Gln | Ala  | Ser  | Glu | Glu | Ser | Ala  | His  | Lys | Glu | Ser | Glu |
| 965  |      |     |     |     | 970  |      |     |     |     | 975  |      |     |     |     |     |
| Val  | Cys  | Pro | Val | Pro | Thr  | Asn  | Ser | Pro | Ser | Pro  | Pro  | Pro | Leu | Pro | Pro |
| 980  |      |     |     |     | 985  |      |     |     |     | 990  |      |     |     |     |     |
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| Gln  | Glu  | Ser | Asp | Thr | Leu  | Phe  | Tyr | His | Ala | Pro  | Pro  | Leu | Ser | Ala | Ile |
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| Thr  | Phe  | Lys | Arg | Gln | Phe  | Met  | Cys | Lys | Leu | Cys  | His  | Arg | Thr | Phe | Lys |
| 1045 |      |     |     |     | 1050 |      |     |     |     | 1055 |      |     |     |     |     |
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&lt;211&gt; 579

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3401

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&lt;210&gt; 3402

&lt;211&gt; 148

&lt;212&gt; PRT

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&lt;400&gt; 3402

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Pro | His | Phe | Gln | Thr | Leu | Gln | Ala | Ile | Val | Ser | His | Phe | Gln | Lys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Phe | Asp | Val | Pro | Ser | Leu | Asn | Gly | Val | Tyr | Pro | Arg | Met | Asn | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Val | Tyr | Thr | Arg | Leu | Gly | Glu | Met | Asn | Asn | Ala | Val | Arg | Asn | Leu | Gln |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Glu | Leu | Leu | Glu | Leu | Asp | Ser | Ser | Ser | Ser | Leu | Cys | Val | Leu | Val | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Thr | Val | Gly | Lys | Leu | Cys | Arg | Leu | Ile | Asn | Glu | Asp | Val | Asn | Glu | Gln |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Val | Met | Gln | Val | Leu | Gly | Pro | Glu | Asp | Leu | Gln | Ser | Ile | Ile | Tyr | Lys |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Leu | Glu | Glu | His | Glu | Glu | Phe | Phe | Pro | Ala | Phe | Gln | Ala | Phe | Thr | Asn |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Asp | Leu | Leu | Glu | Ile | Leu | Glu | Ile | Asp | Asp | Ser | Gly | Cys | His | Cys | Thr |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Cys | Ser | Lys | Glu | Ile | Lys | Ser | Thr | Phe | Ile | Leu | Lys | Thr | Asn | Gln | Ile |
|     | 130 |     |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |
| Ile | Phe | Thr | Val |     |     |     |     |     |     |     |     |     |     |     |     |
| 145 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 3403

&lt;211&gt; 1696

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3403

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120  
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180  
ctggaagagg gaaaagtga ggaacgaaga ccctttctgg cctcagaatg tactgaactg  
240  
cctaaagctg agaagtggag acgacagatc attggagaga tctctaaaaa agtggctcag  
300  
attcagaatg ctggtttagg tgaatttcga attcgtgacc tgaatgatga aattaacaag  
360  
ctgctaaggg agaaaggaca ctgggaggtc cggataaagg agctgggagg tcctgattat  
420  
ggaaaagtgt gccctaaaat gctggatcat gaaggaaaag aagtcccagg aaaccgaggt  
480  
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540  
acctcttcct cctcccagnn aaagacacgt gctgagctca tgaaggcaat cgattttgag  
600  
tactatggtt acctagatga agatgatggt gttattgtgc ctttggaaca ggaatatgaa  
660  
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720  
agaggagaaa aggaagagga ggagggaagag gaggaagaga tcaacatcta tgcagtcacc  
780  
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840  
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900  
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960  
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1020  
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1080  
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1140  
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1200  
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1260  
actgccattt tgaggggaga agaatacaatt agtggcaaac atttaaaaat gcaatttttt  
1320  
gcagaccaa gtataatttt aaaaaatgca aattttctaa aagacacatc tcttgaaaaa  
1380  
tgagatgatg tggccaggcg cagtggctca cgctgtaac ccagcactt tgggaggccg  
1440  
aggcgggagg gtcacgaggt caagagatgg agaccatcct ggccaacatg gtgaaacccc  
1500

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atgtctacta aaaatacaaa aaaattagct gggcgtagctg gcatgcacct gtagtcccag
1560
ctgctttggg aggctgaggc aggagaatca cttgaacccc cggaggtgga ggtttgagtg
1620
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1680
aaaaaaaaaa aagttt
1696
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<210> 3404
<211> 286
<212> PRT
<213> Homo sapiens
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|            |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| <400> 3404 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Met        | Ala | Arg | Asn | Ala | Glu | Lys | Ala | Met | Thr | Ala | Leu | Ala | Arg | Phe | Arg |  |
| 1          |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |
| Gln        | Ala | Gln | Leu | Glu | Glu | Gly | Lys | Val | Lys | Glu | Arg | Arg | Pro | Phe | Leu |  |
|            |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| Ala        | Ser | Glu | Cys | Thr | Glu | Leu | Pro | Lys | Ala | Glu | Lys | Trp | Arg | Arg | Gln |  |
|            |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |
| Ile        | Ile | Gly | Glu | Ile | Ser | Lys | Lys | Val | Ala | Gln | Ile | Gln | Asn | Ala | Gly |  |
|            | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |
| Leu        | Gly | Glu | Phe | Arg | Ile | Arg | Asp | Leu | Asn | Asp | Glu | Ile | Asn | Lys | Leu |  |
| 65         |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |
| Leu        | Arg | Glu | Lys | Gly | His | Trp | Glu | Val | Arg | Ile | Lys | Glu | Leu | Gly | Gly |  |
|            |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |
| Pro        | Asp | Tyr | Gly | Lys | Val | Gly | Pro | Lys | Met | Leu | Asp | His | Glu | Gly | Lys |  |
|            |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| Glu        | Val | Pro | Gly | Asn | Arg | Gly | Tyr | Lys | Tyr | Phe | Gly | Ala | Ala | Lys | Asp |  |
|            |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |
| Leu        | Pro | Gly | Val | Arg | Glu | Leu | Phe | Glu | Lys | Xaa | Thr | Ser | Ser | Ser | Ser |  |
|            | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| Gln        | Xaa | Lys | Thr | Arg | Ala | Glu | Leu | Met | Lys | Ala | Ile | Asp | Phe | Glu | Tyr |  |
| 145        |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |
| Tyr        | Gly | Tyr | Leu | Asp | Glu | Asp | Asp | Gly | Val | Ile | Val | Pro | Leu | Glu | Gln |  |
|            |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |
| Glu        | Tyr | Glu | Lys | Lys | Leu | Arg | Ala | Glu | Leu | Val | Glu | Lys | Trp | Lys | Ala |  |
|            |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |
| Glu        | Arg | Glu | Ala | Arg | Leu | Ala | Arg | Gly | Glu | Lys | Glu | Glu | Glu | Glu | Glu |  |
|            |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |
| Glu        | Glu | Glu | Glu | Ile | Asn | Ile | Tyr | Ala | Val | Thr | Glu | Glu | Glu | Ser | Asp |  |
|            |     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |
| Glu        | Glu | Gly | Ser | Gln | Glu | Lys | Gly | Gly | Asp | Asp | Ser | Gln | Gln | Lys | Phe |  |
| 225        |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |
| Ile        | Ala | His | Val | Pro | Val | Pro | Ser | Gln | Gln | Glu | Ile | Glu | Glu | Ala | Leu |  |
|            |     |     | 245 |     |     |     |     |     |     | 250 |     |     |     | 255 |     |  |
| Val        | Arg | Arg | Lys | Lys | Met | Glu | Leu | Leu | Gln | Lys | Tyr | Ala | Ser | Glu | Thr |  |
|            |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |
| Leu        | Gln | Ala | Gln | Ser | Glu | Glu | Ala | Arg | Arg | Leu | Leu | Gly | Tyr |     |     |  |
|            |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |

<210> 3405  
<211> 402

<212> DNA

<213> Homo sapiens

<400> 3405

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120
aacctgctcg cctccatccg taagggcaat gccattgacg aagcggacat cccgccgcca
180
gtggccatag gaaaaggccc ggcgtccacg cctacctaca gccctgcacc caccagccg
240
gcccctagaa tcgcgtcagc cccagagccc agggtcaccc tggagggacc ttctgccacc
300
gccccagcct catctccagg cttggctaag cccagatgc cccaggtcc ctgcagccct
360
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402

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<210> 3406

<211> 134

<212> PRT

<213> Homo sapiens

<400> 3406

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Gly Trp Glu Ala Pro Leu Gln Glu Arg Leu Ala Phe Tyr Gln Thr Ala
1           5           10           15
Ile Glu Ser Ala Arg Gln Ala Gly Asp Ser Ala Lys Met Arg Arg Tyr
20          25          30
Asp Arg Gly Leu Lys Thr Leu Glu Asn Leu Leu Ala Ser Ile Arg Lys
35          40          45
Gly Asn Ala Ile Asp Glu Ala Asp Ile Pro Pro Pro Val Ala Ile Gly
50          55          60
Lys Gly Pro Ala Ser Thr Pro Thr Tyr Ser Pro Ala Pro Thr Gln Pro
65          70          75          80
Ala Pro Arg Ile Ala Ser Ala Pro Glu Pro Arg Val Thr Leu Glu Gly
85          90          95
Pro Ser Ala Thr Ala Pro Ala Ser Ser Pro Gly Leu Ala Lys Pro Gln
100         105         110
Met Pro Pro Gly Pro Cys Ser Pro Pro Ser Gly Pro Val Ala Glu Pro
115         120         125
Pro Ala Arg Leu Gln Ala
130

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<210> 3407

<211> 535

<212> DNA

<213> Homo sapiens

<400> 3407

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60
tttcccgagc accatgcctt ctcggcgggtg aggcaggtgg cggcaccgac aggcccgggg
120

```

gggacctttc ccgacacccc aacctcctcg gtggcgaggc aggtggcggc accgacaggg  
 180  
 ccggcgggga cctttcccgg ancacctggc ctcttgga agcaggtggc ggcaccaaca  
 240  
 ggcccggggg ggacctttcc cggacacctg gcctcctcgg cgaggcaggt ggcagaactg  
 300  
 gttccacgtc tgatcttct tagacaaacc tgccttcaga ggaaattgtg ttcaactgga  
 360  
 gaaactggaa aatgtactag atattggctg atatgaagga tatatgtttt aagtatgata  
 420  
 attcgatttt ggctctgtag ggaaaggctc ttattttaaa aagatgtgca ctagagaaaa  
 480  
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 535

<210> 3408

<211> 131

<212> PRT

<213> Homo sapiens

<400> 3408

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Met | Arg | Gly | Asp | Gly | Glu | Glu | Pro | Pro | Arg | Thr | Ala | Pro | Ser | Arg |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Ala | Gly | Thr | Phe | Pro | Gly | His | His | Ala | Phe | Ser | Ala | Val | Arg | Gln |
|     |     |     | 20  |     |     |     | 25  |     |     |     |     |     | 30  |     |     |
| Val | Ala | Ala | Pro | Thr | Gly | Pro | Gly | Gly | Thr | Phe | Pro | Gly | His | Pro | Thr |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ser | Ser | Val | Ala | Arg | Gln | Val | Ala | Ala | Pro | Thr | Gly | Pro | Ala | Gly | Thr |
|     |     |     | 50  |     |     |     | 55  |     |     |     | 60  |     |     |     |     |
| Phe | Pro | Gly | Xaa | Pro | Gly | Leu | Leu | Gly | Lys | Gln | Val | Ala | Ala | Pro | Thr |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Gly | Pro | Gly | Gly | Thr | Phe | Pro | Gly | His | Leu | Ala | Ser | Ser | Ala | Arg | Gln |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Val | Ala | Glu | Leu | Val | Pro | Arg | Leu | Ile | Phe | Leu | Arg | Gln | Thr | Cys | Leu |
|     |     |     | 100 |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Gln | Arg | Lys | Leu | Cys | Ser | Thr | Gly | Glu | Thr | Gly | Lys | Cys | Thr | Arg | Tyr |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Trp | Leu | Ile |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     | 130 |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 3409

<211> 959

<212> DNA

<213> Homo sapiens

<400> 3409

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 120  
 gagagagagg aaccttgccg gtccgaggca gctctgcgcg tcccctcctg cgcttagcat  
 180  
 cctcggccca gcgcggcccg caccgccatg gaggtgctgg agagcgggga gcagggcgctg  
 240

ctgcagtggg accgcaagct gagcgagctg tcagagcccc gggacggcga ggccctcatg  
 300  
 taccacacgc acttctcaga acttctggat gagttttccc agaacgtctt gggtcagctc  
 360  
 ctgaatgac ctttctctc agagaagagt gtgtcaatgg aggtggaacc ttccccgacg  
 420  
 tccccggcgc ctctcatcca ggctgagcac agctactccc tgtgcgagga gcctcgggccc  
 480  
 cagtcgccct tcaccacacat taccaccagt gacagcttca atgacgatga ggtggaaagt  
 540  
 nngagaaatg gtacctgtct acagacttcc cttcaacatc catcaagaca gagccagtta  
 600  
 cagacgaacc acccccagga ctctgtccgt ctgtcactct gaccatcaca gccatctcca  
 660  
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 720  
 cagaccatta ttctaaaaat taagctggag cctcatgaag tggatcagtt tctaaacttc  
 780  
 tctctaaag aaggtctgtc tngccctccc tgtgtccctt tgggttatgg atatggtctc  
 840  
 tgggtctaca gagagggaat atggcgagag agctgggatg agtttgtacc acagatgttg  
 900  
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 959

<210> 3410

<211> 144

<212> PRT

<213> Homo sapiens

<400> 3410

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Val | Leu | Glu | Ser | Gly | Glu | Gln | Gly | Val | Leu | Gln | Trp | Asp | Arg |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Lys | Leu | Ser | Glu | Leu | Ser | Glu | Pro | Gly | Asp | Gly | Glu | Ala | Leu | Met | Tyr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| His | Thr | His | Phe | Ser | Glu | Leu | Leu | Asp | Glu | Phe | Ser | Gln | Asn | Val | Leu |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly | Gln | Leu | Leu | Asn | Asp | Pro | Phe | Leu | Ser | Glu | Lys | Ser | Val | Ser | Met |
|     |     |     | 50  |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Glu | Val | Glu | Pro | Ser | Pro | Thr | Ser | Pro | Ala | Pro | Leu | Ile | Gln | Ala | Glu |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| His | Ser | Tyr | Ser | Leu | Cys | Glu | Glu | Pro | Arg | Ala | Gln | Ser | Pro | Phe | Thr |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| His | Ile | Thr | Thr | Ser | Asp | Ser | Phe | Asn | Asp | Asp | Glu | Val | Glu | Ser | Xaa |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Arg | Asn | Gly | Thr | Cys | Leu | Gln | Thr | Ser | Leu | Gln | His | Pro | Ser | Arg | Gln |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ser | Gln | Leu | Gln | Thr | Asn | His | Pro | Gln | Asp | Ser | Phe | Arg | Leu | Ser | Leu |
|     |     | 130 |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |

<210> 3411

<211> 958

<212> DNA

<213> Homo sapiens

<400> 3411  
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 120  
 cgacggcctc cacagtccgg agcccgcg agcccgacc tggcgggag agctgcctcc  
 180  
 acggccgggc acccagaccc caccgtcgca gtcgccacca cctcagtcca tcttggtac  
 240  
 cggcaatggg cttcgtatcc tccagtgcac ttgtaactga cttggacacg gaataactaag  
 300  
 aactcacttc tgtcctcatc ccagtgcgc cggcggtgac catctcggct cttttgggct  
 360  
 taactgccgc tcctctggac tctgtctgac tttgggggca ccatggacca aagtgggatg  
 420  
 gagattcctg tgaccctcat cattaaagca ccgaatcaga aatacagtga ccagactatt  
 480  
 agctgcttct tgaactggac cgtggggaaa ctaaaaacgc atctatctaa cgtttaccct  
 540  
 agcaaaccat tgacgaagga tcagagattg gtgtattcgg gcagactgct tccgatcat  
 600  
 ctgcagctga aagacattct cagaaaacaa gatgagtatc atatggttca tctagtatgt  
 660  
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 720  
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 780  
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 840  
 ccacaagcac aaactgacca agcacagagt caccagtttc catatgtaat gcaaggaaat  
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 958

<210> 3412

<211> 185

<212> PRT

<213> Homo sapiens

<400> 3412

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asp | Gln | Ser | Gly | Met | Glu | Ile | Pro | Val | Thr | Leu | Ile | Ile | Lys | Ala |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Pro | Asn | Gln | Lys | Tyr | Ser | Asp | Gln | Thr | Ile | Ser | Cys | Phe | Leu | Asn | Trp |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Thr | Val | Gly | Lys | Leu | Lys | Thr | His | Leu | Ser | Asn | Val | Tyr | Pro | Ser | Lys |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Pro | Leu | Thr | Lys | Asp | Gln | Arg | Leu | Val | Tyr | Ser | Gly | Arg | Leu | Leu | Pro |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asp | His | Leu | Gln | Leu | Lys | Asp | Ile | Leu | Arg | Lys | Gln | Asp | Glu | Tyr | His |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Met | Val | His | Leu | Val | Cys | Thr | Ser | Arg | Thr | Pro | Pro | Ser | Ser | Pro | Lys |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ser | Ser | Thr | Asn | Arg | Glu | Ser | His | Glu | Ala | Leu | Ala | Ser | Ser | Ser | Asn |

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<400> 3413
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120
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| Met | Lys | Glu | Pro | Leu | Asp | Gly | Glu | Cys | Gly | Lys | Ala | Val | Val | Pro | Gln |
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| Gln | Glu | Leu | Leu | Asp | Lys | Ile | Lys | Glu | Glu | Pro | Asp | Asn | Ala | Gln | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Tyr | Gly | Cys | Val | Gln | Gln | Pro | Lys | Thr | Gln | Glu | Ser | Lys | Leu | Lys | Ile |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly | Gly | Val | Ser | Ser | Val | Asn | Glu | Arg | Pro | Ile | Ala | Gln | Gln | Leu | Asn |
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| Pro | Gly | Phe | Gln | Leu | Ser | Phe | Ala | Ser | Ser | Gly | Pro | Ser | Val | Leu | Leu |
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| Pro | Ser | Val | Pro | Ala | Val | Ala | Ile | Lys | Val | Phe | Cys | Ser | Gly | Cys | Lys |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Lys | Met | Leu | Tyr | Lys | Gly | Gln | Thr | Ala | Tyr | His | Lys | Thr | Gly | Ser | Thr |
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| Gln | Leu | Phe | Cys | Ser | Thr | Arg | Cys | Ile | Thr | Arg | His | Ser | Ser | Pro | Ala |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |
| Cys | Leu | Pro | Pro | Pro | Pro | Lys | Lys | Thr | Cys | Thr | Asn | Cys | Ser | Lys | Asp |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ile | Leu | Asn | Pro | Lys | Asp | Val | Ile | Thr | Thr | Arg | Phe | Glu | Asn | Ser | Tyr |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Pro | Ser | Lys | Asp | Phe | Cys | Ser | Gln | Ser | Cys | Leu | Ser | Ser | Tyr | Glu | Leu |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Lys | Lys | Lys | Pro | Val | Val | Thr | Ile | Tyr | Thr | Lys | Ser | Ile | Ser | Thr | Lys |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Cys | Ser | Met | Cys | Gln | Lys | Asn | Ala | Asp | Thr | Arg | Phe | Glu | Val | Lys | Tyr |

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| Gln | Asn | Val | Val | His | Gly | Leu | Cys | Ser | Asp | Ala | Cys | Phe | Ser | Lys | Phe |
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| His | Ser | Thr | Asn | Asn | Leu | Thr | Thr | Asn | Cys | Cys | Glu | Asn | Cys | Gly | Ser |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     |     |
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&lt;400&gt; 3415

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&lt;400&gt; 3416

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| Xaa | Ser | Pro | Gly | Gly | Arg | Thr | Pro | Ala | Ala | Arg | Asp | Ser | Ile | Val | Arg |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Glu | Val | Ile | Gln | Asn | Ser | Lys | Glu | Val | Leu | Ser | Leu | Leu | Gln | Glu | Lys |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asn | Pro | Ala | Phe | Lys | Pro | Val | Leu | Ala | Ile | Ile | Gln | Ala | Gly | Asp | Asp |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Asn | Leu | Met | Gln | Glu | Ile | Asn | Gln | Asn | Leu | Ala | Glu | Glu | Ala | Gly | Leu |
|     | 50  |     |     |     | 55  |     |     |     |     |     | 60  |     |     |     |     |
| Asn | Ile | Thr | His | Ile | Cys | Leu | Pro | Pro | Asp | Ser | Ser | Glu | Ala | Glu | Ile |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Ile | Asp | Glu | Ile | Leu | Lys | Ile | Asn | Glu | Asp | Thr | Arg | Val | His | Gly | Leu |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Ala | Leu | Gln | Ile | Ser | Glu | Asn | Leu | Phe | Ser | Asn | Lys | Val | Leu | Asn | Ala |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu | Lys | Pro | Glu | Lys | Asp | Val | Asp | Gly | Val | Thr | Asp | Ile | Asn | Leu | Gly |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Lys | Leu | Val | Arg | Gly | Asp | Ala | His | Glu | Cys | Phe | Val | Ser | Pro | Val | Ala |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 130 |     | 135 |     | 140 |     |     |     |     |     |     |     |     |     |     |     |
| Lys | Ala | Val | Ile | Glu | Leu | Leu | Glu | Lys | Ser | Val | Gly | Val | Asn | Leu | Asp |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |
| Gly | Lys | Lys | Ile | Leu | Val | Val | Gly | Ala | His | Gly | Ser | Leu | Glu | Ala | Ala |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |
| Leu | Gln | Cys | Leu | Phe | Gln | Arg | Lys | Gly | Ser | Met | Thr | Met | Ser | Ile | Gln |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Trp | Lys | Thr | Arg | Gln | Leu | Gln | Ser | Lys | Leu | His | Glu | Ala | Asp | Ile | Val |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Val | Leu | Gly | Ser | Pro | Lys | Pro | Glu | Glu | Ile | Pro | Leu | Thr | Trp | Ile | Gln |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Pro | Gly | Thr | Thr | Val | Leu | Asn | Cys | Ser | His | Asp | Phe | Leu | Ser | Gly | Lys |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Val | Gly | Cys | Gly | Ser | Pro | Arg | Ile | Xaa | Ile | Leu | Val | Asp | Ser | Leu | Arg |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Lys | Met | Met |     |     |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 3417

&lt;211&gt; 405

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3417

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405

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&lt;210&gt; 3418

&lt;211&gt; 94

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3418

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Ala | Ala | Thr | Glu | His | Asn | Arg | Pro | Ser | Ser | Gly | Asp | Arg | Asn |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     | 15  |     |     |
| Leu | Glu | Arg | Arg | Cys | Ser | Pro | Asn | Leu | Ser | Arg | Glu | Val | Leu | Tyr | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ile | Phe | Arg | Ser | Leu | His | Thr | Leu | Val | Gly | Gln | Leu | Asp | Leu | Arg | Asp |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asp | Val | Val | Lys | Ile | Thr | Ile | Asp | Trp | Asn | Lys | Leu | Gln | Ser | Leu | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ala | Phe | Gln | Pro | Ala | Leu | Leu | Phe | Ser | Ala | Leu | Glu | Gln | His | Ile | Leu |

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<210> 3419
<211> 418
<212> DNA
<213> Homo sapiens

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<210> 3420
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<212> PRT
<213> Homo sapiens

<400> 3420
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 20      25      30
Cys Cys Leu Ala Leu Lys Ala His Arg Arg Pro Cys Val His Leu His
 35      40      45
Cys Asp Thr Val Ala Leu Glu Ser Thr Thr Leu Arg Gly Thr Thr Arg
 50      55      60
Glu Val Thr Arg Arg Ser Pro Ile Asn Met Lys His Pro Glu Gln Gly
 65      70      75      80
Glu Pro Gly Gly Pro Ala Asp Gln Trp Val Pro Arg Arg Glu Trp Ala
 85      90      95
Gly Trp Asp Gly Ser Gly Val Asn Arg
100      105

<210> 3421
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<213> Homo sapiens

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 2940  
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 2988

&lt;210&gt; 3422

&lt;211&gt; 418

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3422

Met Ser Arg His Leu Pro Trp Ile Cys Asp Gln Arg Cys Ser Ser Pro  
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 Ser Ser Pro Gly Arg Trp Pro Pro Ala Ala Arg Met Trp Leu Pro Arg

|         |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 20      |     |     |     |     |     | 25  |     |     |     |     |     | 30  |     |     |     |  |
| Phe     | Ser | Ser | Lys | Thr | Val | Thr | Val | Leu | Leu | Leu | Ala | Gln | Thr | Thr | Cys |  |
|         |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |  |
| Leu     | Leu | Leu | Phe | Ile | Ile | Ser | Arg | Pro | Gly | Pro | Ser | Ser | Pro | Ala | Gly |  |
|         |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |
| Gly     | Glu | Asp | Arg | Val | His | Val | Leu | Val | Leu | Ser | Ser | Trp | Arg | Ser | Gly |  |
| 65      |     |     |     |     | 70  |     |     |     | 75  |     |     | 80  |     |     |     |  |
| Ser     | Ser | Phe | Leu | Gly | Gln | Leu | Phe | Ser | Gln | His | Pro | Asp | Val | Phe | Tyr |  |
|         |     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |  |
| Leu     | Met | Glu | Pro | Ala | Trp | His | Val | Trp | Thr | Thr | Leu | Ser | Gln | Gly | Ser |  |
|         |     |     |     | 100 |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| Ala     | Ala | Thr | Leu | His | Met | Ala | Val | Arg | Asp | Leu | Met | Arg | Ser | Ile | Phe |  |
|         |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |  |
| Leu     | Cys | Asp | Met | Asp | Val | Phe | Asp | Ala | Tyr | Met | Glu | Pro | Gly | Pro | Arg |  |
|         |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| Arg     | Gln | Ser | Ser | Leu | Phe | Gln | Trp | Glu | Asn | Ser | Arg | Ala | Leu | Cys | Ser |  |
| 145     |     |     |     |     | 150 |     |     |     | 155 |     |     | 160 |     |     |     |  |
| Ala     | Pro | Ala | Cys | Asp | Ile | Ile | Pro | Gln | Asp | Glu | Ile | Ile | Pro | Arg | Ala |  |
|         |     |     |     | 165 |     |     |     | 170 |     |     |     |     | 175 |     |     |  |
| His     | Cys | Arg | Leu | Leu | Cys | Ser | Gln | Gln | Pro | Phe | Glu | Val | Val | Glu | Lys |  |
|         |     |     |     | 180 |     |     |     | 185 |     |     |     |     | 190 |     |     |  |
| Ala     | Cys | Arg | Ser | Tyr | Ser | His | Val | Val | Leu | Lys | Glu | Val | Arg | Phe | Phe |  |
|         |     | 195 |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |  |
| Asn     | Leu | Gln | Ser | Leu | Tyr | Pro | Leu | Leu | Lys | Asp | Pro | Ser | Leu | Asn | Leu |  |
|         |     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |
| His     | Ile | Val | His | Leu | Val | Arg | Asp | Pro | Arg | Ala | Val | Leu | Arg | Ser | Arg |  |
| 225     |     |     |     |     | 230 |     |     |     | 235 |     |     | 240 |     |     |     |  |
| Glu     | Ala | Ala | Gly | Pro | Ile | Leu | Ala | Arg | Asp | Asn | Gly | Ile | Val | Leu | Gly |  |
|         |     |     |     | 245 |     |     |     | 250 |     |     |     |     |     | 255 |     |  |
| Thr     | Asn | Gly | Lys | Trp | Val | Glu | Ala | Asp | Pro | His | Leu | Arg | Leu | Ile | Arg |  |
|         |     |     |     | 260 |     |     |     | 265 |     |     |     |     | 270 |     |     |  |
| Glu     | Val | Cys | Arg | Ser | His | Val | Arg | Ile | Ala | Glu | Ala | Ala | Thr | Leu | Lys |  |
|         |     | 275 |     |     |     | 280 |     |     |     |     | 285 |     |     |     |     |  |
| Pro     | Pro | Pro | Phe | Leu | Arg | Gly | Arg | Tyr | Arg | Leu | Val | Arg | Phe | Glu | Asp |  |
|         |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |
| Leu     | Ala | Arg | Glu | Pro | Leu | Ala | Glu | Ile | Arg | Ala | Leu | Tyr | Ala | Phe | Thr |  |
| 305     |     |     |     |     | 310 |     |     |     | 315 |     |     | 320 |     |     |     |  |
| Gly     | Leu | Thr | Leu | Thr | Pro | Gln | Leu | Glu | Ala | Trp | Ile | His | Asn | Ile | Thr |  |
|         |     |     |     | 325 |     |     |     | 330 |     |     |     |     |     | 335 |     |  |
| His     | Gly | Ser | Gly | Ile | Gly | Lys | Pro | Ile | Glu | Ala | Phe | His | Thr | Ser | Ser |  |
|         |     |     |     | 340 |     |     |     | 345 |     |     |     |     | 350 |     |     |  |
| Arg     | Asn | Ala | Arg | Asn | Val | Ser | Gln | Ala | Trp | Arg | His | Ala | Leu | Pro | Phe |  |
|         |     | 355 |     |     |     | 360 |     |     |     |     | 365 |     |     |     |     |  |
| Thr     | Lys | Ile | Leu | Arg | Val | Gln | Glu | Val | Cys | Ala | Gly | Ala | Leu | Gln | Leu |  |
|         |     | 370 |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |
| Leu     | Gly | Tyr | Arg | Pro | Val | Tyr | Ser | Ala | Asp | Gln | Gln | Arg | Asp | Leu | Thr |  |
| 385     |     |     |     |     | 390 |     |     |     | 395 |     |     | 400 |     |     |     |  |
| Leu     | Asp | Leu | Val | Leu | Pro | Arg | Gly | Pro | Asp | His | Phe | Ser | Trp | Ala | Ser |  |
|         |     |     |     | 405 |     |     |     | 410 |     |     |     |     | 415 |     |     |  |
| Pro Asp |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |

<210> 3423

<211> 1851

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3423

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 1851

<210> 3424  
 <211> 136  
 <212> PRT  
 <213> Homo sapiens

<400> 3424  
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 Ala Ser Tyr Gly Val Arg Gln Asp Gly Asp Pro Ala Phe Leu Tyr Leu  
 35 40 45  
 Leu Ser Ala Pro Arg Glu Ala Pro Ala Thr Gly Pro Ser Pro Gln His  
 50 55 60  
 Pro Gln Lys Met Asp Gly Glu Leu Gly Arg Leu Phe Pro Pro Ser Leu  
 65 70 75 80  
 Gly Leu Pro Pro Gly Pro Gln Pro Ala Ala Ser Ser Leu Pro Ser Pro  
 85 90 95  
 Leu Gln Pro Ser Trp Ser Cys Pro Ser Cys Thr Phe Ile Asn Ala Pro  
 100 105 110  
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<210> 3425  
 <211> 1416  
 <212> DNA  
 <213> Homo sapiens

<400> 3425  
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 420  
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&lt;210&gt; 3426

&lt;211&gt; 410

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3426

Ser Gly Gly Lys Gly Leu Cys Cys Cys Ala Arg Ala Gly Ala Ala Ala  
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 35 40 45  
 Arg Lys Ala Ala Ser Pro Gly Ala Pro Arg Pro Trp Pro Arg His Ser  
 50 55 60  
 Thr His Met Ala Ser Gly Val Gly Ala Ala Phe Glu Glu Leu Pro His

120

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 420  
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<210> 3428

<211> 132

<212> PRT

<213> Homo sapiens

<400> 3428

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asp | Ser | Leu | Ala | Leu | Ser | Asn | Ile | Thr | Gly | Ala | Ser | Val | Asp | Gly |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Glu | Asn | Lys | Pro | Arg | Pro | Ser | Leu | Tyr | Ser | Leu | Gln | Asn | Phe | Glu | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Met | Glu | Thr | Glu | Asp | Cys | Glu | Lys | Met | Ser | Asn | Met | Gly | Thr | Leu | Asn |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ser | Ser | Met | Leu | His | Arg | Ser | Ala | Glu | Ser | Leu | Lys | Ser | Leu | Ser | Ser |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Glu | Leu | Cys | Pro | Glu | Lys | Ile | Leu | Pro | Glu | Glu | Lys | Pro | Val | His | Leu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Pro | Val | Leu | Arg | Arg | Ser | Lys | Ser | Gln | Ser | Arg | Pro | Gln | Gln | Val | Lys |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Phe | Ser | Asp | Asp | Val | Ile | Asp | Asn | Gly | Asn | Tyr | Asp | Ile | Glu | Ile | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gln | Pro | Pro | Met | Ser | Glu | Arg | Thr | Arg | Arg | Arg | Val | Tyr | Asn | Phe | Glu |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Glu | Arg | Gly | Ser |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     | 130 |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 3429

<211> 634

<212> DNA

<213> Homo sapiens

<400> 3429

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 120  
 gtcagcttcc ttttcatact ttcccggcgt tctctccacg agcaggtgca ccagggaacct  
 180

gtccctctgt cctacacggt caccacagtg acgacccaag gcttcccctt gcctacaggc  
 240  
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 cagcattacc cctctgctg cctcccgcgc ccgcttatcc aggcgtgcac catgcagcag  
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 420  
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<210> 3430

<211> 122

<212> PRT

<213> Homo sapiens

<400> 3430

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Leu | Leu | Arg | Val | Ala | Leu | Ala | Val | Ser | Phe | Leu | Phe | Ile | Leu | Ser |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Arg | Arg | Ser | Leu | His | Glu | Gln | Val | His | Gln | Gly | Pro | Val | Pro | Leu | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Tyr | Thr | Val | Thr | Thr | Val | Thr | Thr | Gln | Gly | Phe | Pro | Leu | Pro | Thr | Gly |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Gln | His | Ile | Pro | Gly | Cys | Ser | Ala | Gln | Gln | Leu | Pro | Ala | Cys | Ser | Val |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Met | Phe | Ser | Gly | Gln | His | Tyr | Pro | Leu | Cys | Cys | Leu | Pro | Pro | Pro | Leu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Ile | Gln | Ala | Cys | Thr | Met | Gln | Gln | Leu | Pro | Val | Pro | Tyr | Gln | Ala | Tyr |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Pro | His | Leu | Ile | Ser | Ser | Asp | His | Tyr | Ile | Leu | His | Pro | Pro | Pro | Pro |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |
| Gly | Thr | His | Pro | Ala | Ala | Pro | Gly | Ser | Val |     |     |     |     |     |     |
|     |     |     | 115 |     |     |     |     | 120 |     |     |     |     |     |     |     |

<210> 3431

<211> 1396

<212> DNA

<213> Homo sapiens

<400> 3431

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 180  
 agcgcgcgca gccgtgtcgc caacagtacc aaatcgtcgt gcagcggcct cgcgccgccc  
 240

gacttcaacc attgcctcaa ggattgggac tataatggcc ttctgtgct caccaccaac  
 300  
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 420  
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 1380  
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 1396

&lt;210&gt; 3432

&lt;211&gt; 296

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3432

Met Ala Leu Arg Phe Leu Leu Gly Phe Leu Leu Ala Gly Val Asp Leu  
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 Gly Val Tyr Leu Met Arg Leu Glu Leu Cys Asp Pro Thr Gln Arg Leu  
 20 25 30  
 Arg Val Ala Leu Ala Gly Glu Leu Val Gly Val Gly Gly His Phe Leu  
 35 40 45  
 Phe Leu Gly Leu Ala Leu Val Ser Lys Asp Trp Arg Phe Leu Gln Arg

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 50  |     | 55  |     | 60  |     |     |     |     |     |     |     |     |     |     |     |
| Met | Ile | Thr | Ala | Pro | Cys | Ile | Leu | Phe | Leu | Phe | Tyr | Gly | Trp | Pro | Gly |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Leu | Phe | Leu | Glu | Ser | Ala | Arg | Trp | Leu | Ile | Val | Lys | Arg | Gln | Ile | Glu |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Glu | Ala | Gln | Ser | Val | Leu | Arg | Ile | Leu | Ala | Glu | Arg | Asn | Arg | Pro | His |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gly | Gln | Met | Leu | Gly | Glu | Glu | Ala | Gln | Glu | Ala | Leu | Gln | Asp | Leu | Glu |
|     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Asn | Thr | Cys | Pro | Leu | Pro | Ala | Thr | Ser | Ser | Phe | Ser | Phe | Ala | Ser | Leu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Leu | Asn | Tyr | Arg | Asn | Ile | Trp | Lys | Asn | Leu | Leu | Ile | Leu | Gly | Phe | Thr |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Asn | Phe | Ile | Ala | His | Ala | Ile | Arg | His | Cys | Tyr | Gln | Pro | Val | Gly | Gly |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Gly | Gly | Ser | Pro | Ser | Asp | Phe | Tyr | Leu | Cys | Ser | Leu | Leu | Ala | Ser | Gly |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Thr | Ala | Ala | Leu | Ala | Cys | Val | Phe | Leu | Gly | Val | Thr | Val | Asp | Arg | Phe |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Gly | Arg | Arg | Gly | Ile | Leu | Leu | Leu | Ser | Met | Thr | Leu | Thr | Gly | Ile | Ala |
|     | 210 |     |     | 215 |     |     |     |     | 220 |     |     |     |     |     |     |
| Ser | Leu | Val | Leu | Leu | Gly | Leu | Trp | Asp | Cys | Glu | His | Pro | Ile | Phe | Pro |
| 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |     |
| Thr | Val | Trp | Ala | Gln | Gln | Gly | Asn | Pro | Asn | Arg | Asp | Leu | Asn | Glu | Ala |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |
| Ala | Ile | Thr | Thr | Phe | Ser | Val | Leu | Gly | Leu | Phe | Ser | Ser | Gln | Ala | Ala |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |     |
| Ala | Ile | Leu | Ser | Thr | Leu | Leu | Ala | Ala | Glu | Val | Ile | Pro | Thr | Thr | Val |
|     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |     |
| Arg | Gly | Arg | Gly | Leu | Gly | Leu | Ile |     |     |     |     |     |     |     |     |
|     | 290 |     |     |     |     | 295 |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 3433

&lt;211&gt; 1257

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3433

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 120  
 ccgagccact cccgttccca caccaggtcg aacttgaaaa gggacgtcgc ccacctgtac  
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 540  
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 960  
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 1080  
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<210> 3434

<211> 311

<212> PRT

<213> Homo sapiens

<400> 3434

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Thr | Arg | Gly | Ala | Gly | Pro | Gln | Gln | Arg | Leu | Leu | Pro | Ser | Ala | Gln |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Arg | Pro | Ser | Ser | Val | Pro | Pro | Ser | Pro | Ser | Pro | Arg | Pro | Leu | Pro | Gly |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Gly | Arg | Gln | Arg | Pro | Gln | Arg | Pro | Ser | His | Ser | Arg | Ser | His | Thr | Arg |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Ser | Asn | Leu | Lys | Arg | Asp | Val | Ala | His | Leu | Tyr | Arg | Gly | Val | Gly | Ser |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Arg | Tyr | Ile | Met | Gly | Ser | Gly | Glu | Ser | Phe | Met | Gln | Leu | Gln | Gln | Arg |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |     |
| Leu | Leu | Arg | Glu | Lys | Glu | Ala | Lys | Ile | Arg | Lys | Ala | Leu | Asp | Arg | Leu |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Arg | Lys | Lys | Arg | His | Leu | Leu | Arg | Arg | Gln | Arg | Thr | Arg | Arg | Glu | Phe |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     | 110 |     |     |     |
| Pro | Val | Ile | Ser | Val | Val | Gly | Tyr | Thr | Asn | Cys | Gly | Glu | His | Ala | Pro |
|     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Arg | Gly | Gly | Ala | Phe | Arg | Gly | Leu | Arg | Val | Thr | Gly | Glu | Asp | Ser | Pro |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gly | Gly | Gly | Gln | Gly | Val | Pro | Val | Val | Ser | Val | Val | Pro | Tyr | Asp | Ser |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Cys | Gly | Glu | His | Val | Pro | Arg | Arg | Gly | Gly | Ser | His | Gly | Arg | Arg | Val |

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<210> 3435
<211> 1225
<212> DNA
<213> Homo sapiens
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2608

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 1020  
 acccccgtag ccctgccctt ctttgtacgc acagccaacc agggcaatgg cactggtag  
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<210> 3436

<211> 408

<212> PRT

<213> Homo sapiens

<400> 3436

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
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| Xaa | His | Ser | Leu | Tyr | Asp | His | Trp | Gly | Lys | Glu | Asp | Glu | Asn | Leu | Gly |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Ser | Val | Lys | Gln | Tyr | Val | Glu | Ser | Ile | Asp | Val | Ser | Ser | Tyr | Thr | Glu |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Phe | Asn | Val | Ser | Cys | Leu | Thr | Asp | Ser | Asn | Ala | Asp | Thr | Tyr | Trp |
|     | 35  |     |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Glu | Ser | Asp | Gly | Ser | Gln | Cys | Gln | His | Trp | Val | Arg | Leu | Thr | Met | Lys |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Lys | Gly | Thr | Ile | Val | Lys | Lys | Leu | Leu | Leu | Ala | Val | Asp | Thr | Thr | Asp |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Asp | Asn | Phe | Met | Pro | Lys | Arg | Val | Val | Val | Tyr | Gly | Gly | Glu | Gly | Asp |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     |     | 95  |
| Asn | Leu | Lys | Lys | Leu | Ser | Asp | Val | Ser | Ile | Asp | Xaa | Arg | Pro | Ser | Ser |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gly | Xaa | Val | Cys | Val | Leu | Glu | Asp | Met | Thr | Val | His | Leu | Pro | Ile | Ile |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Glu | Ile | Arg | Ile | Val | Glu | Cys | Arg | Asp | Asp | Gly | Ile | Asp | Val | Arg | Leu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Arg | Gly | Val | Lys | Ile | Lys | Ser | Ser | Arg | Gln | Arg | Glu | Leu | Gly | Leu | Asn |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Ala | Asp | Leu | Phe | Gln | Pro | Thr | Ser | Leu | Val | Arg | Tyr | Pro | Arg | Leu | Glu |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Gly | Thr | Asp | Pro | Glu | Val | Leu | Tyr | Arg | Arg | Ala | Val | Leu | Leu | Gln | Arg |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Phe | Ile | Lys | Ile | Leu | Asp | Ser | Val | Leu | His | His | Leu | Val | Pro | Ala | Trp |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Asp | His | Thr | Leu | Gly | Thr | Phe | Ser | Glu | Ile | Lys | Gln | Val | Lys | Gln | Phe |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Leu | Leu | Leu | Ser | Arg | Gln | Arg | Pro | Gly | Leu | Val | Ala | Gln | Cys | Leu | Arg |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Asp | Ser | Glu | Ser | Ser | Lys | Pro | Ser | Phe | Met | Pro | Arg | Leu | Tyr | Ile | Asn |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Arg | Arg | Leu | Ala | Met | Glu | His | Arg | Ala | Cys | Pro | Ser | Arg | Asp | Pro | Ala |

[illegible]

<210> 3437

<211> 2081

<212> DNA

<213> Homo sapiens

<400> 3437

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| 60         |            |            |            |             |             |
| ctggacacca | tcctcagctc | ctaccttctg | ggccagtgca | cgagatgctg  | atggggcctt  |
| 120        |            |            |            |             |             |
| cacctgctgc | accatcgaca | aggccaccca | gacgcccctg | tcctggcaag  | agctagaagg  |
| 180        |            |            |            |             |             |
| tgagcgtgcc | agttcctgtg | cacacaagcg | ctcagcatcc | tggggcagca  | cagaccaccg  |
| 240        |            |            |            |             |             |
| aaaagagatt | tccaagttga | agcaacaact | gcagaggacg | aagctgagcc  | gcagtgggaa  |
| 300        |            |            |            |             |             |
| agagaaggag | cgaggttcac | cactcctagg | ggaccacgca | gtgcggggag  | cactgagggc  |
| 360        |            |            |            |             |             |
| gtccccctcc | agcttcccc  | cagggtcccc | tgtcttgcg  | ctcagcccct  | gcctgcacag  |
| 420        |            |            |            |             |             |
| gagcctggaa | gggctcaacc | aagagctgga | ggaggtat   | gtgaaggagc  | agggagaaga  |
| 480        |            |            |            |             |             |
| ggagctgctg | aggatccttg | atatccctga | tgggcaccgg | gccccagctc  | ctccccagag  |
| 540        |            |            |            |             |             |
| tggcagctgt | gatcatcccc | tcctcctcct | gagcctggca | accttgccag  | ctctccttcc  |
| 600        |            |            |            |             |             |
| atgtccttgg | catctcccca | gcctgtggcc | tggccagtca | tgaggaaacat | cgggggtgccg |
| 660        |            |            |            |             |             |
| ccgaggagct | ggcatccacc | cccaacgaca | aagcctcctc | tccaggacac  | ccagcctttc  |
| 720        |            |            |            |             |             |
| ttgaagatgg | cagcccatct | ccagtccttg | cctttgctgc | ctccccctga  | cctaatacata |
| 780        |            |            |            |             |             |
| gctacatctt | caaacgggag | cccccagaag | gctgtgagaa | agtgcgtgtg  | tttgaagaag  |
| 840        |            |            |            |             |             |

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 960  
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 1020  
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 1080  
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 2081

&lt;210&gt; 3438

&lt;211&gt; 105

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3438

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Cys | Gln | Phe | Leu | Cys | Thr | Gln | Ala | Leu | Ser | Ile | Leu | Gly | Gln | His |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Arg | Pro | Pro | Lys | Arg | Asp | Phe | Gln | Val | Glu | Ala | Thr | Thr | Ala | Glu | Asp |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Ala | Glu | Pro | Gln | Trp | Glu | Arg | Glu | Gly | Ala | Arg | Phe | Thr | Thr | Pro |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| 35  |     |     |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |  |  |
| Arg | Gly | Pro | Arg | Ser | Ala | Gly | Ser | Thr | Glu | Gly | Val | Pro | Ser | Gln | Leu |  |  |
| 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |  |  |
| Pro | Leu | Arg | Val | Pro | Cys | Leu | Ala | Thr | Gln | Pro | Leu | Pro | Ala | Gln | Glu |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     |     |  |  |
| Pro | Gly | Arg | Ala | Gln | Pro | Arg | Ala | Gly | Gly | Gly | Ile | Cys | Glu | Gly | Ala |  |  |
| 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |     |     |     |  |  |
| Gly | Arg | Arg | Gly | Ala | Ala | Glu | Asp | Pro |     |     |     |     |     |     |     |  |  |
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<210> 3439
<211> 1519
<212> DNA
<213> Homo sapiens
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| ctcaccgcgc | ctcgctctgc | tccgcggggc | ccgcggcatg | ctgggatatg | tagtccccac |
| 120        |            |            |            |            |            |
| ggggcgccgg | gcgccccggg | ggagcggggc | cggcacccta | ggggacgcaa | agccccggga |
| 180        |            |            |            |            |            |
| aggggcccgg | ggagggaggc | cggagcgggc | agcgcggcgg | cgccatgtcc | gtgaacatgg |
| 240        |            |            |            |            |            |
| acgagctcaa | gcaccaggtc | atgatcaacc | agtctgtgct | gacggcgggc | tgcgcggccg |
| 300        |            |            |            |            |            |
| accaggcgaa | gcaactgctg | caggcggccc | actggcagtt | cgagacagcc | ctcagcgctt |
| 360        |            |            |            |            |            |
| ttttccagga | gaccaacatc | ccctacagcc | accatcacca | ccagatgatg | tgcacccccg |
| 420        |            |            |            |            |            |
| ccaatacccc | tgctacaccc | cccaacttcc | ctgacgctct | caccatgttc | tccgtcttca |
| 480        |            |            |            |            |            |
| aggcctccga | gagcttcac  | agcggtgcca | gcggcagccc | gatggccgcg | acagccacgt |
| 540        |            |            |            |            |            |
| cacccccgcc | acacttcccc | catgccgcc  | ccagcagctc | tgcggcctcc | agctggccca |
| 600        |            |            |            |            |            |
| cggcggcctc | gcnccccggg | gggcccacag | caccaccagc | cacagccgcc | cctgtggact |
| 660        |            |            |            |            |            |
| ccaacacccc | cttctccggc | ttcagactgg | ccacccttgc | cccccaacag | gccacctcag |
| 720        |            |            |            |            |            |
| aacccagggc | ccaccctgcc | atggaggcag | agagataagg | gaggcccttc | ccccctcccg |
| 780        |            |            |            |            |            |
| gaggccagga | ccccgtgggg | ggggggagag | gacgtctctg | cgggccccct | tnncaccctt |
| 840        |            |            |            |            |            |
| tttctgtctg | caccccttgt | tcccggagc  | cctggagggg | agagcgcgga | ctctagccag |
| 900        |            |            |            |            |            |
| gcagggacac | gtctggtgcc | agaacacgca | gctgcccaca | cgcaaggcca | tggccccagc |
| 960        |            |            |            |            |            |
| ggccccggca | catggagtgg | ttcagagcgg | cctgggtgcc | tggcggacag | aacttcagag |
| 1020       |            |            |            |            |            |
| accacgcagc | cttccttcga | agacgcacct | gcccagccca | gcccaggggt | gccgtggagg |
| 1080       |            |            |            |            |            |
| accaccctgg | cggagacatt | gtgatccct  | ggcttgagag | tccttggggg | cgggcaggcc |
| 1140       |            |            |            |            |            |

tcgacccccca ccctagggaa tgcagagcct ctccgcatgt gtgcgcgtgg ccgtgtctgt  
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<210> 3440

<211> 287

<212> PRT

<213> Homo sapiens

<400> 3440

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| Cys | Ala | Pro | Pro | Ile | Pro | Leu | Leu | His | Pro | Pro | Thr | Ser | Leu | Thr |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Ser | Pro | Cys | Ser | Pro | Val | Ser | Arg | Pro | Pro | Arg | Ala | Ser | Thr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  | Ala |
| Val | Ala | Ala | Ala | Ala | Arg | Trp | Pro | Arg | Gln | Pro | Arg | His | Pro | Arg |
|     |     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     | His |
| Thr | Ser | Pro | Met | Pro | Pro | Pro | Ala | Ala | Leu | Arg | Pro | Pro | Ala | Gly |
|     |     |     | 50  |     |     |     |     | 55  |     |     |     | 60  |     | Pro |
| Arg | Arg | Pro | Arg | Xaa | Pro | Gly | Gly | Pro | Gln | His | His | Gln | Pro | Gln |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     | 80  |
| Pro | Leu | Trp | Thr | Pro | Thr | Pro | Pro | Ser | Pro | Ala | Ser | Asp | Trp | Pro |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     | 95  |
| Leu | Pro | Pro | Asn | Arg | Pro | Pro | Gln | Asn | Pro | Gly | Pro | Thr | Leu | Pro |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     | 110 |
| Arg | Gln | Arg | Asp | Lys | Gly | Gly | Pro | Ser | Pro | Leu | Pro | Glu | Ala | Arg |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     | 125 |
| Pro | Trp | Gly | Gly | Gly | Glu | Asp | Val | Ser | Ala | Gly | Pro | Leu | Xaa | Thr |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     | 140 |
| Phe | Leu | Ser | Ala | Pro | Leu | Val | Pro | Arg | Ser | Pro | Gly | Gly | Glu | Ser |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     | 160 |
| Asp | Ser | Ser | Gln | Ala | Gly | Thr | Arg | Leu | Val | Pro | Glu | His | Ala | Ala |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     | 175 |
| His | Thr | Gln | Gly | His | Gly | Pro | Ser | Gly | Pro | Gly | Thr | Trp | Ser | Gly |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     | 190 |
| Glu | Arg | Pro | Gly | Cys | Leu | Ala | Asp | Arg | Thr | Ser | Glu | Thr | Gln | Pro |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     | 205 |
| Ser | Phe | Glu | Asp | Ala | Pro | Ala | Gln | Pro | Ser | Pro | Gly | Val | Pro | Trp |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     | 220 |
| Thr | Thr | Leu | Ala | Glu | Thr | Leu | Leu | Ile | Pro | Gly | Leu | Glu | Leu | Gly |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     | 240 |
| Gly | Arg | Gln | Ala | Ser | Thr | Pro | Thr | Leu | Gly | Asn | Ala | Glu | Pro | Leu |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     | 255 |
| Met | Cys | Ala | Arg | Gly | Arg | Val | Cys | Val | Phe | Leu | Arg | Val | Ser | Leu |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     | Phe |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 260 |     | 265 |     | 270 |     |     |     |     |     |     |     |     |     |
| Arg | Ser | Asn | Leu | Val | Pro | Gly | Ala | Ala | Gly | Leu | Cys | Met | Leu | Val |
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 <213> Homo sapiens

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 1920  
 tgcccagcag tgctgccttc agcggccgtg acggggccag ctggacacac ggtgagattt  
 1980  
 tctcgtatgt aaataaaagg caatttggtg aacgtggaaa aaaaaaaaaa aaaaaaaaaa  
 2040  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa  
 2074

<210> 3442

<211> 374

<212> PRT

<213> Homo sapiens

<400> 3442

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Val | Gly | Lys | Asn | Val | Lys | Leu | Tyr | Asp | Met | Val | Leu | Gln | Phe | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Arg | Thr | Leu | Phe | Leu | Arg | Thr | Arg | Asn | Val | His | Tyr | Cys | Thr | Leu | Arg |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Glu | Leu | Leu | Met | Ser | Leu | His | Asp | Leu | Asp | Val | Gly | Glu | Ile | Cys |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Thr | Val | Asp | Pro | Cys | His | Lys | Phe | Thr | Trp | Cys | Leu | Asp | Ala | Cys | Ile |
|     |     |     | 50  |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Arg | Glu | Arg | Phe | Val | Asp | Ser | Lys | Arg | Ala | Arg | Glu | Leu | Gln | Gly | Phe |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Leu | Asp | Asp | Val | Lys | Lys | Gly | Gln | Glu | Gln | Val | Leu | Gly | Asp | Leu | Ser |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Met | Ile | Leu | Cys | Asp | Pro | Phe | Ala | Ile | Asn | Thr | Leu | Ala | Leu | Ser | Thr |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Val | Arg | His | Leu | Gln | Glu | Leu | Val | Gly | Gln | Glu | Thr | Leu | Pro | Arg | Asp |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ser | Pro | Asp | Leu | Leu | Leu | Leu | Leu | Arg | Leu | Leu | Ala | Leu | Gly | Gln | Gly |
|     |     |     | 130 |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ala | Trp | Asp | Met | Ile | Asp | Ser | Gln | Val | Phe | Lys | Glu | Pro | Lys | Met | Glu |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Val | Glu | Leu | Ile | Thr | Arg | Phe | Leu | Pro | Met | Leu | Met | Ser | Phe | Leu | Val |

```

                165                170                175
Asp Asp Tyr Thr Phe Asn Val Asp Gln Lys Leu Pro Ala Glu Glu Lys
                180                185                190
Ala Pro Val Ser Tyr Pro Asn Thr Leu Pro Glu Ser Phe Thr Lys Phe
                195                200                205
Leu Gln Glu Gln Arg Met Ala Cys Glu Val Gly Leu Tyr Tyr Val Leu
                210                215                220
His Ile Thr Lys Gln Arg Asn Lys Asn Ala Leu Leu Arg Leu Leu Pro
225                230                235                240
Gly Leu Val Glu Thr Phe Gly Asp Leu Ala Phe Gly Asp Ile Phe Leu
                245                250                255
His Leu Leu Thr Gly Asn Leu Ala Leu Leu Ala Asp Glu Phe Ala Leu
                260                265                270
Glu Asp Phe Cys Ser Ser Leu Phe Asp Gly Phe Phe Leu Thr Ala Ser
                275                280                285
Pro Arg Lys Glu Asn Val His Arg His Ala Leu Arg Leu Leu Ile His
                290                295                300
Leu His Pro Arg Val Ala Pro Ser Lys Leu Glu Ala Leu Gln Lys Ala
305                310                315                320
Leu Glu Pro Thr Gly Gln Ser Gly Glu Ala Val Lys Glu Leu Tyr Ser
                325                330                335
Gln Leu Gly Glu Lys Leu Glu Gln Leu Asp His Arg Lys Pro Ser Pro
                340                345                350
Ala Gln Ala Ala Glu Thr Pro Ala Leu Glu Leu Pro Leu Pro Ser Val
                355                360                365
Pro Ala Pro Ala Pro Leu
                370

```

&lt;210&gt; 3443

&lt;211&gt; 2070

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3443

```

ctggccgtaa atgccgagga ggacgcctgg ttacggggcac aggtcatctc aacagaagag
60
aacaaaataa aggtatgcta tgttgactat ggttttagtg aaaatggtga aaaaagcaaa
120
gcatacaaat taaacccgaa gttttgttca ctctcatttc aagctacaaa atgtaagctt
180
gcaggcttgg aagtcctaag cgatgaccct gatctagtga aggtgggtga atctttaact
240
tgtggaaaga tctttgcagt ggaaataactt gacaaagctg acattccact tgttgttctg
300
tacgatacct caggagaaga tgatatcaat atcaatgcc cctgcttgaa ggctatatgt
360
gacaagtcac tagaggttca cctgcagggt gacgccatgt acacaaatgt caaaataact
420
aatatttgc tctgatgggac actctactgc caggtgcctt gtaagggtct gaacaagctc
480
agtgccttc tacgtaagat agaggactac ttccattgca agcacatgac ctctgagtgc
540
tttgtttcat tacccttctg tgggaaaatc tgccctcttc attgcaaagg aaaatgggtta
600

```

cgagtagaga tcacaaatgt tcacagcagc cgggctcttg atgttcagtt cctggactct  
660  
ggcactgtga catctgtaaa agtgtcagag ctcagggaaa ttccacctcg gtttctacaa  
720  
gaaatgattg caataccacc tcaggccatt aagtgtctgt tagcagatct tccacaatct  
780  
attggcatgt ggacaccaga tgcagtgtcg tggtaagag attctgtttt gaattgtctg  
840  
gactgtagca ttaaggttac aaaagtggat gaaaccagag ggatcgacaca tgttttattta  
900  
tttaccoccta agaacttccc tgacctcat cgcagtatta atcgccagat tacaaatgca  
960  
gacttgtgga agcatcagaa ggatgtgttt ttgagtgtcca tatccagtgg agctgactct  
1020  
ccaacacgca aaaatggcaa catgcccatt tcgggcaaca ctggagagaa tttcagaaag  
1080  
aacctcacag atgtcatcaa aaagtccatt gtggaccata cgagcgcttt ctccacagag  
1140  
gaactgccac ctctgtcca cttatcaaag ccaggggaac acatggatgt gtatgtgcct  
1200  
gtggcctgtc acccaggcta ctctgtcatc cagccttggc aggagataca taagtgtgaa  
1260  
gttctgatgg aagagatgat tctatattac agcgtgtctg aagagcgcca catagcagtg  
1320  
gagaaagacc aagtgtatgc tgcaaaagtg gaaaataagt ggcacagggt gcttttaaaa  
1380  
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1440  
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1620  
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1680  
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1740  
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1800  
ggcttaaaaa aaatcttaac tctgctacat ggctctgact gctgtggggg attgaaaaga  
1860  
atatgcttat gtttgatgaa agatatttaa caagttttgt tttaacagag ttgacttttc  
1920  
aaagaaaatt gtacttgaat tattactata atattagaat aaaaatgttt atcaatataa  
1980  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
2040  
aaaaaaaaaa aaaaaaaaaa aaaaaagggg  
2070

&lt;210&gt; 3444

&lt;211&gt; 579

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3444

```

Leu Ala Val Asn Ala Glu Glu Asp Ala Trp Leu Arg Ala Gln Val Ile
 1           5           10           15
Ser Thr Glu Glu Asn Lys Ile Lys Val Cys Tyr Val Asp Tyr Gly Phe
          20           25           30
Ser Glu Asn Val Glu Lys Ser Lys Ala Tyr Lys Leu Asn Pro Lys Phe
          35           40           45
Cys Ser Leu Ser Phe Gln Ala Thr Lys Cys Lys Leu Ala Gly Leu Glu
          50           55           60
Val Leu Ser Asp Asp Pro Asp Leu Val Lys Val Val Glu Ser Leu Thr
65           70           75           80
Cys Gly Lys Ile Phe Ala Val Glu Ile Leu Asp Lys Ala Asp Ile Pro
          85           90           95
Leu Val Val Leu Tyr Asp Thr Ser Gly Glu Asp Asp Ile Asn Ile Asn
          100          105          110
Ala Thr Cys Leu Lys Ala Ile Cys Asp Lys Ser Leu Glu Val His Leu
          115          120          125
Gln Val Asp Ala Met Tyr Thr Asn Val Lys Ile Thr Asn Ile Cys Ser
          130          135          140
Asp Gly Thr Leu Tyr Cys Gln Val Pro Cys Lys Gly Leu Asn Lys Leu
145          150          155          160
Ser Asp Leu Leu Arg Lys Ile Glu Asp Tyr Phe His Cys Lys His Met
          165          170          175
Thr Ser Glu Cys Phe Val Ser Leu Pro Phe Cys Gly Lys Ile Cys Leu
          180          185          190
Phe His Cys Lys Gly Lys Trp Leu Arg Val Glu Ile Thr Asn Val His
          195          200          205
Ser Ser Arg Ala Leu Asp Val Gln Phe Leu Asp Ser Gly Thr Val Thr
          210          215          220
Ser Val Lys Val Ser Glu Leu Arg Glu Ile Pro Pro Arg Phe Leu Gln
225          230          235          240
Glu Met Ile Ala Ile Pro Pro Gln Ala Ile Lys Cys Cys Leu Ala Asp
          245          250          255
Leu Pro Gln Ser Ile Gly Met Trp Thr Pro Asp Ala Val Leu Trp Leu
          260          265          270
Arg Asp Ser Val Leu Asn Cys Ser Asp Cys Ser Ile Lys Val Thr Lys
          275          280          285
Val Asp Glu Thr Arg Gly Ile Ala His Val Tyr Leu Phe Thr Pro Lys
          290          295          300
Asn Phe Pro Asp Pro His Arg Ser Ile Asn Arg Gln Ile Thr Asn Ala
305          310          315          320
Asp Leu Trp Lys His Gln Lys Asp Val Phe Leu Ser Ala Ile Ser Ser
          325          330          335
Gly Ala Asp Ser Pro Asn Ser Lys Asn Gly Asn Met Pro Met Ser Gly
          340          345          350
Asn Thr Gly Glu Asn Phe Arg Lys Asn Leu Thr Asp Val Ile Lys Lys
          355          360          365
Ser Met Val Asp His Thr Ser Ala Phe Ser Thr Glu Glu Leu Pro Pro
          370          375          380
Pro Val His Leu Ser Lys Pro Gly Glu His Met Asp Val Tyr Val Pro
385          390          395          400
Val Ala Cys His Pro Gly Tyr Phe Val Ile Gln Pro Trp Gln Glu Ile

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405 410 415  
 His Lys Leu Glu Val Leu Met Glu Glu Met Ile Leu Tyr Tyr Ser Val  
 420 425 430  
 Ser Glu Glu Arg His Ile Ala Val Glu Lys Asp Gln Val Tyr Ala Ala  
 435 440 445  
 Lys Val Glu Asn Lys Trp His Arg Val Leu Leu Lys Gly Ile Leu Thr  
 450 455 460  
 Asn Gly Leu Val Ser Val Tyr Glu Leu Asp Tyr Gly Lys His Glu Leu  
 465 470 475 480  
 Val Asn Ile Arg Lys Val Gln Pro Leu Val Asp Met Phe Arg Lys Leu  
 485 490 495  
 Pro Phe Gln Ala Val Thr Ala Gln Leu Ala Gly Val Lys Cys Asn Gln  
 500 505 510  
 Trp Ser Glu Glu Ala Ser Met Val Phe Arg Asn His Val Glu Lys Lys  
 515 520 525  
 Pro Leu Val Ala Leu Val Gln Thr Val Ile Glu Asn Ala Asn Pro Trp  
 530 535 540  
 Asp Arg Lys Val Val Val Tyr Leu Val Asp Thr Ser Leu Pro Asp Thr  
 545 550 555 560  
 Asp Thr Trp Ile His Asp Phe Met Ser Glu Tyr Leu Ile Glu Leu Ser  
 565 570 575  
 Lys Val Asn

&lt;210&gt; 3445

&lt;211&gt; 2086

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3445

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 tggcagtggag ctggccgcgg ccttggtgta gaggccttaa ccccgccggg cggcgcgcgc  
 120  
 cctgcatgcg agttgggccc cgggcggggg tggagcctac tcggggcgac tgcatggac  
 180  
 gccttagaag gagagagctt tgcgctgtct ttctcctccg cctctgatgc agaatttgat  
 240  
 gctgtggttg gatatttaga ggacattatc atggatgacg agttccagtt attacagaga  
 300  
 aatttcatgg acaagtacta cctggagttt gaagacacag aagagaataa actcatctac  
 360  
 acacctatct ttaatgaata catttccttg gtagaaaaat acattgaaga acagctgctg  
 420  
 cagcggattc ctgagttcaa catggcagcc ttcaccacaa cattacacca tctgttcctg  
 480  
 ttgaggcacc ataaggatga agtggctggg gacatattcg acatgctgct caccttcaca  
 540  
 gattttctgg cttttaaaaga aatgtttttg gactacagag cagaaaaaga aggcgagga  
 600  
 ctggacttaa gcagtggctt agtggtgact tcattgtgca aatcatcttc tctgccagct  
 660  
 tcccagaaca atctgcggca ctaggtccta cctccagcca atgaatggga tcattctgga  
 720

tgtcaccagc ccaataggct cagctcatga tgacagaaca catcttggaa agactgactc  
 780  
 tgttatgtaa ctcttcattt atgttaagta ttaataggtc aaaaccaaaa tgacctaac  
 840  
 ctctggacc tatttatcct gaaacacctt ctgtattca ttaaccatag tactcctccc  
 900  
 cacctcaagt agacacctct ctcaggagct tctgagtcag acgcctctgg agcgagccct  
 960  
 atgtcaggca ctccacctgg ggggcccttc cccagcatac ctgctggtgt gtaagtgtgg  
 1020  
 actaaccgcg cgccaccacc ctctgttcca gcaggctctg catgaatctt tgtgcacttg  
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 1260  
 gctactccta gtcttaacat ttgcagtcct tgtgtcactg tcttctggtc ctgatgtagt  
 1320  
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 1380  
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 1440  
 agatcaaagt atttatgtct gtgtgctttt taggtgtttg ttagtactgt gaaggcaaaa  
 1500  
 atgctttcta cattgacatt cattcctatt ttactgggca cctatgaatg tatgctgtgt  
 1560  
 gctagaaata gactaaaaca tattcctata gcatgttagt gtgtttgcat gtttgctgaa  
 1620  
 aatcctttgt gtataaacca gtttgtaagg ttctctgggt taggtaggga ctctgcagtt  
 1680  
 tcttctgtc aaaatctctc ctaccaagat ggtgttcac tgtccagccc agcatgagta  
 1740  
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 1800  
 gattacttat cagaaaacat atatgtcatc tctagaacga agaaaaagca tagtagttca  
 1860  
 attcccagtg tgtccctttg attttttttt tttaatagta aaaataagaa tctgtactga  
 1920  
 cttttcactt ggccattctg gttttaaggg acaagctaca agctctgtgt ttctgtactg  
 1980  
 atgtgtcact tattaaatac ttttgtacca tgagtaaaac ttcagggtgt tcgcaagaac  
 2040  
 caccattctc aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa  
 2086

&lt;210&gt; 3446

&lt;211&gt; 169

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3446

Met Asp Ala Leu Glu Gly Glu Ser Phe Ala Leu Ser Phe Ser Ser Ala

|   |     |     |     |
|---|-----|-----|-----|
| 1   | 5   | 10  | 15  |
| Ser Asp Ala Glu Phe Asp Ala Val Val Gly Tyr Leu Glu Asp Ile Ile |     |     |     |
| 20  | 25  | 30  |     |
| Met Asp Asp Glu Phe Gln Leu Leu Gln Arg Asn Phe Met Asp Lys Tyr |     |     |     |
| 35  | 40  | 45  |     |
| Tyr Leu Glu Phe Glu Asp Thr Glu Glu Asn Lys Leu Ile Tyr Thr Pro |     |     |     |
| 50  | 55  | 60  |     |
| Ile Phe Asn Glu Tyr Ile Ser Leu Val Glu Lys Tyr Ile Glu Glu Gln |     |     |     |
| 65  | 70  | 75  | 80  |
| Leu Leu Gln Arg Ile Pro Glu Phe Asn Met Ala Ala Phe Thr Thr Thr |     |     |     |
| 85  | 90  | 95  |     |
| Leu His His Leu Phe Arg Leu Arg His His Lys Asp Glu Val Ala Gly |     |     |     |
| 100   | 105 | 110 |     |
| Asp Ile Phe Asp Met Leu Leu Thr Phe Thr Asp Phe Leu Ala Phe Lys |     |     |     |
| 115   | 120 | 125 |     |
| Glu Met Phe Leu Asp Tyr Arg Ala Glu Lys Glu Gly Arg Gly Leu Asp |     |     |     |
| 130   | 135 | 140 |     |
| Leu Ser Ser Gly Leu Val Thr Ser Leu Cys Lys Ser Ser Ser Leu     |     |     |     |
| 145   | 150 | 155 | 160 |
| Pro Ala Ser Gln Asn Asn Leu Arg His                             |     |     |     |
| 165   |     |     |     |

&lt;210&gt; 3447

&lt;211&gt; 936

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3447

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 120  
 ggggtgcgct ttgaccgca gagggcgcgc cgctgtggg aagccgtgtc cggtgcccag  
 180  
 ccggtgggta gagaggaagt ggagcacatg atccagaaga accaatgtct cttcaccaac  
 240  
 acccagtgtg aggtttgctg cgccttgctt atttctgagt cccagaagct ggcacattac  
 300  
 cagagcaaaa aacatgccaa caaagtgaag agatacctag caatccatgg aatggagaca  
 360  
 ttaaaggggg aaacgaagaa gctagactca gatcagaaga gcagcagaag caaagacaag  
 420  
 aaccagtgtt gccccatctg taacatgacc ttttcctccc ctgtcgtggc ccagtgcac  
 480  
 tacctgggga agaccacgc aaagaactta aagctgaagc agcagtccac taaggtggaa  
 540  
 gccttgacc agaatagaga gatgatagac ccagacaagt tctgcagcct ctgccatgca  
 600  
 actttcaacg accctgtcat ggctcaacaa cattatgtgg gcaagaaaca cagaaaacag  
 660  
 gagaccaagc tcaaactaat ggcacgctat gggcggtgg cggaccctgc tgtcactgac  
 720  
 tttccagctg gaaagggcta cccctgcaaa acatgtaaga tagtgctgaa ctccatagaa  
 780

cagtaccaag ctcatgtcag cggcttcaaa cacaagaacc agtcaccaaa aacagtggca  
 840  
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 900  
 gaagactaga ggtgattctg cccagcatcc catatt  
 936

<210> 3448

<211> 302

<212> PRT

<213> Homo sapiens

<400> 3448

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Arg | Glu | Gly | Phe | Ala | Gly | Lys | Met | Glu | Tyr | Pro | Ala | Pro | Ala | Thr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Val | Gln | Ala | Ala | Asp | Gly | Gly | Ala | Ala | Gly | Pro | Tyr | Ser | Ser | Ser | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Leu | Glu | Gly | Gln | Glu | Pro | Asp | Gly | Val | Arg | Phe | Asp | Arg | Glu | Arg |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ala | Arg | Arg | Leu | Trp | Glu | Ala | Val | Ser | Gly | Ala | Gln | Pro | Val | Gly | Arg |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Glu | Glu | Val | Glu | His | Met | Ile | Gln | Lys | Asn | Gln | Cys | Leu | Phe | Thr | Asn |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     |     | 80  |
| Thr | Gln | Cys | Lys | Val | Cys | Cys | Ala | Leu | Leu | Ile | Ser | Glu | Ser | Gln | Lys |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Leu | Ala | His | Tyr | Gln | Ser | Lys | Lys | His | Ala | Asn | Lys | Val | Lys | Arg | Tyr |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu | Ala | Ile | His | Gly | Met | Glu | Thr | Leu | Lys | Gly | Glu | Thr | Lys | Lys | Leu |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Asp | Ser | Asp | Gln | Lys | Ser | Ser | Arg | Ser | Lys | Asp | Lys | Asn | Gln | Cys | Cys |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Pro | Ile | Cys | Asn | Met | Thr | Phe | Ser | Ser | Pro | Val | Val | Ala | Gln | Ser | His |
| 145 |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     |     | 160 |
| Tyr | Leu | Gly | Lys | Thr | His | Ala | Lys | Asn | Leu | Lys | Leu | Lys | Gln | Gln | Ser |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Thr | Lys | Val | Glu | Ala | Leu | His | Gln | Asn | Arg | Glu | Met | Ile | Asp | Pro | Asp |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |
| Lys | Phe | Cys | Ser | Leu | Cys | His | Ala | Thr | Phe | Asn | Asp | Pro | Val | Met | Ala |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Gln | Gln | His | Tyr | Val | Gly | Lys | Lys | His | Arg | Lys | Gln | Glu | Thr | Lys | Leu |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Lys | Leu | Met | Ala | Arg | Tyr | Gly | Arg | Leu | Ala | Asp | Pro | Ala | Val | Thr | Asp |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     |     | 240 |
| Phe | Pro | Ala | Gly | Lys | Gly | Tyr | Pro | Cys | Lys | Thr | Cys | Lys | Ile | Val | Leu |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Asn | Ser | Ile | Glu | Gln | Tyr | Gln | Ala | His | Val | Ser | Gly | Phe | Lys | His | Lys |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |
| Asn | Gln | Ser | Pro | Lys | Thr | Val | Ala | Ser | Ser | Leu | Gly | Gln | Ile | Pro | Met |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Gln | Arg | Gln | Pro | Ile | Gln | Lys | Asp | Ser | Thr | Thr | Leu | Glu | Asp |     |     |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |

<210> 3449

<211> 877

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3449

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877

```

&lt;210&gt; 3450

&lt;211&gt; 276

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3450

```

Xaa Ile Phe Ser Asn His His His Arg Leu Gln Leu Lys Ala Ala Pro
1           5           10           15
Ala Ser Ser Asn Pro Pro Gly Ala Pro Ala Leu Pro Leu His Asn Ser
20           25           30
Ser Val Thr Ala Asn Ser Gln Ser Pro Ala Leu Leu Ala Gly Thr Asn
35           40           45
Pro Val Ala Val Val Ala Asp Gly Gly Ser Cys Pro Ala His Tyr Pro
50           55           60
Val His Glu Cys Val Phe Lys Gly Asp Val Arg Arg Leu Ser Ser Leu
65           70           75           80
Ile Arg Thr His Asn Ile Gly Gln Lys Asp Asn His Gly Asn Thr Pro
85           90           95
Leu His Leu Ala Val Met Leu Gly Asn Lys Glu Cys Ala His Leu Leu

```

[illegible]

<210> 3451

&lt;211&gt; 595

<212> DNA

<213> Homo sapiens

<400> 3451

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120
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180
cccagcatga acctctggct tgtggagatg tcttcagct ggaaacctga gtgagcgaag
240
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300
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480
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595

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<210> 3452

&lt;211&gt; 192

<212> PRT

<213> Homo sapiens

<400> 3452

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 1           5           10           15
Leu Ile Ala Thr Asn Thr Thr Glu Asn Ser Thr Arg Glu Glu Val Asn
           20           25           30
Glu Arg Gln Ser His Pro Ala Thr Gln Gln Gln Leu Gly Lys Thr Leu
           35           40           45
Gln Ser Lys Gln Leu Pro Gln Val Pro Arg Pro Leu Gln Leu Phe Ser
           50           55           60
Ala Lys Glu Leu Arg Asp Ser Ser Ile Asp Thr His Gln Tyr His Glu
65           70           75           80
Gly Leu Ser Lys Ala Thr Gln Asp Gln Ile Leu Gln Thr Leu Ile Gln
           85           90           95
Arg Val Arg Arg Gln Asn Leu Leu Ser Val Val Pro Pro Ser Gln Phe
           100          105          110
Asn Phe Ala His Ser Gly Phe Gln Leu Glu Asp Ile Ser Thr Ser Gln
           115          120          125
Arg Phe Met Leu Gly Phe Ala Gly Arg Arg Thr Ser Lys Pro Ala Met
           130          135          140
Ala Gly His Tyr Leu Leu Asn Ile Ser Thr Tyr Gly Arg Gly Ser Glu
145          150          155          160
Ser Phe Arg Arg Thr His Ser Val Asn Pro Glu Asp Arg Phe Cys Leu
           165          170          175
Ser Ser Pro Thr Glu Ala Leu Lys Met Gly Tyr Thr Asn Cys Lys Asn
           180          185          190

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<210> 3453

<211> 477

<212> DNA

<213> Homo sapiens

<400> 3453

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300
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477

```

<210> 3454

<211> 159

<212> PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3454

```

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 1           5           10           15
Lys Met Ala Ala Ala Ala Ala Ala Gly Ala Ala Ser Gly Leu Pro Gly
          20           25           30
Pro Val Ala Gln Gly Leu Lys Glu Ala Leu Val Asp Thr Leu Thr Gly
          35           40           45
Ile Leu Ser Pro Val Gln Glu Val Arg Ala Ala Ala Glu Glu Gln Ile
          50           55           60
Lys Val Leu Glu Val Thr Glu Glu Phe Gly Val His Leu Ala Glu Leu
65           70           75           80
Thr Val Asp Pro Gln Gly Ala Leu Ala Ile Arg Gln Leu Ala Ser Val
          85           90           95
Ile Leu Lys Gln Tyr Val Glu Thr His Trp Cys Ala Gln Ser Glu Lys
          100          105          110
Phe Arg Pro Pro Glu Thr Thr Glu Arg Ala Lys Ile Val Ile Arg Glu
          115          120          125
Leu Leu Pro Asn Gly Leu Arg Glu Ser Ile Ser Lys Val Arg Ser Ser
          130          135          140
Val Ala Tyr Ala Val Ser Ala Ile Ala His Trp Asp Trp Pro Glu
145           150           155

```

&lt;210&gt; 3455

&lt;211&gt; 4886

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3455

```

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120
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240
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300
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420
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720

```

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<210> 3456

<211> 117

<212> PRT

<213> Homo sapiens

<400> 3456

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Ile | Glu | Lys | Lys | Gly | Lys | Gly | Lys | Lys | Arg | Arg | Gly | Arg | Arg | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Lys | Lys | Gln | Arg | Arg | Arg | Gly | Arg | Lys | Glu | Gly | Glu | Glu | Asp | Gln | Asn |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Pro | Pro | Cys | Pro | Arg | Leu | Asn | Gly | Val | Leu | Met | Glu | Val | Glu | Glu | Pro |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Glu | Val | Leu | Gln | Asp | Ser | Leu | Asp | Arg | Cys | Tyr | Ser | Thr | Pro | Ser | Met |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Tyr | Phe | Glu | Leu | Pro | Asp | Ser | Phe | Gln | His | Tyr | Arg | Ser | Val | Phe | Tyr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ser | Phe | Glu | Glu | Glu | His | Ile | Ser | Phe | Ala | Leu | Tyr | Val | Asp | Asn | Arg |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Phe | Phe | Thr | Leu | Thr | Val | Thr | Ser | Leu | His | Leu | Val | Phe | Gln | Met | Gly |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Val | Ile | Phe | Pro | Gln |     |     |     |     |     |     |     |     |     |     |     |

115

&lt;210&gt; 3457

&lt;211&gt; 646

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3457

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 120  
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 180  
 aagtgaggat gcgtatgtnn ggttggtgtgt gtctgtatct gcatttgcat gngtgtattg  
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 420  
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 480  
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 540  
 aaccctccag gccttctcct gccacaggct ctgtctctgt cccgtcgtgt tgcctcctgc  
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 646

&lt;210&gt; 3458

&lt;211&gt; 61

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3458

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Arg | Asp | Phe | Val | Ser | Met | Ser | Arg | Cys | Pro | Cys | Ala | Cys | Val | Cys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Arg | Cys | Val | Xaa | Val | Pro | Gly | Cys | Val | Cys | Ala | Cys | Val | Cys | Val | Asp |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     |     | 30  |     |     |
| Ile | Cys | Ala | Cys | Leu | Phe | Thr | His | Arg | Trp | Glu | Cys | Arg | Val | Cys | Ile |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu | Cys | Xaa | Cys | Thr | Cys | Thr | Gln | Ala | Xaa | Ala | Gly | Lys |     |     |     |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |

&lt;210&gt; 3459

&lt;211&gt; 592

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3459

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 120  
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 180  
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 420  
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 480  
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 592

<210> 3460

<211> 115

<212> PRT

<213> Homo sapiens

<400> 3460

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Pro | Ser | Gly | Pro | Ala | Ala | Thr | Pro | Thr | Thr | Trp | Asp | Leu | Pro |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Gly | Pro | Ala | Arg | Ile | Pro | Val | Leu | Pro | Cys | Ser | Pro | Gln | Leu | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Pro | Ser | Leu | Cys | Ala | Ala | Ser | Val | Cys | Leu | Leu | Gln | Asn | Lys | His |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| His | Ala | Pro | Ser | Trp | Ala | Glu | Ala | Pro | Ala | Asp | Ser | Pro | Arg | Ala | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gln | Ala | Cys | Pro | Val | Leu | Cys | Gln | Ala | Gly | Pro | Gly | His | Val | Pro | Ala |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Pro | Gly | Ala | Gly | Leu | Gln | Arg | Gly | Gln | Trp | Ser | Ala | Leu | Lys | Thr | Val |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Ile | Pro | Ala | Arg | Pro | Ala | Leu | Pro | Cys | Ser | Ala | Arg | Gly | Gln | Phe | Glu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu | Lys | Leu |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     | 115 |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 3461

<211> 474

<212> DNA

<213> Homo sapiens

<400> 3461

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 120  
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 180

ctggaagcca gcatcggggt ggctgggatg ctggcaagcc tctcggggg ccaactggctc  
 240  
 cgggcccagg gttatgccaa ccccttctgg ctggccttgg ccttgctgat agccatgact  
 300  
 ctctatgcag ctttctgctt tggtagagacc ttaaaggagc caaagtccac cgggctcttc  
 360  
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<210> 3462

<211> 101

<212> PRT

<213> Homo sapiens

<400> 3462

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Leu | Leu | Glu | Ala | Ser | Ile | Gly | Val | Ala | Gly | Met | Leu | Ala | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     | 15  |     |     |
| Leu | Leu | Gly | Gly | His | Trp | Leu | Arg | Ala | Gln | Gly | Tyr | Ala | Asn | Pro | Phe |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Trp | Leu | Ala | Leu | Ala | Leu | Leu | Ile | Ala | Met | Thr | Leu | Tyr | Ala | Ala | Phe |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Cys | Phe | Gly | Glu | Thr | Leu | Lys | Glu | Pro | Lys | Ser | Thr | Arg | Leu | Phe | Thr |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Phe | Arg | His | His | Arg | Ser | Ile | Val | Gln | Leu | Tyr | Val | Ala | Pro | Ala | Pro |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Glu | Lys | Ser | Arg | Lys | His | Leu | Ala | Leu | Tyr | Ser | Leu | Ala | Ile | Phe | Val |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Val | Ile | Thr | Val | His |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     |     | 100 |     |     |     |     |     |     |     |     |     |     |     |

<210> 3463

<211> 1734

<212> DNA

<213> Homo sapiens

<400> 3463

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 120  
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 180  
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 240  
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 300  
 aaacatggct tgaaagctaa aaaaactttt ctoggacaaa ataaatcctt ctgggggcct  
 360  
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 420  
 cttccaggac ttaagacacc agtaggtaga ggaagagcct ggcttcgttt ggcattaatg  
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caaaagaaac tttcagaata tatgaaagct ttgatcaata agaaagaact tctcagtga  
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 660  
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 720  
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 780  
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 960  
 caagacagaa ctgcagaagg gcaagcacta agtgaagcaa gaaagcattt aaaagaagag  
 1020  
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 1080  
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 1140  
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 1200  
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 1260  
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 1320  
 aatgaaacac tttggattgt cagtgtctgaa gtgaaaagaa tgtgtgttac attcggcaaa  
 1380  
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 aactcttaat ccatgtcaga gtcattgtgt agaggaagga tacttaaaag catggaagga  
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 ctcttaaatg tatgtatgta attctgtgat tttattgttc atcactgaag tctttgaata  
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 1734

&lt;210&gt; 3464

&lt;211&gt; 434

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3464

Xaa Arg Arg Arg Leu Arg Ser Ala Pro Ala Ala Ala Ala Ala Leu  
 1 5 10 15  
 Leu Glu Asp Pro Ala Val Pro Arg Leu Thr Ala Ala Leu Pro Ala Ala  
 20 25 30  
 Glu Leu Pro Glu Arg Arg Arg Arg Gln Gln Arg Gln Gly Lys His His

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Pro | Asn | Tyr | Leu | Met | Ala | Asn | Glu | Arg | Met | Asn | Leu | Met | Asn | Met | Ala |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Lys | Leu | Ser | Ile | Lys | Gly | Leu | Ile | Glu | Ser | Ala | Leu | Asn | Leu | Gly | Arg |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Thr | Leu | Asp | Ser | Asp | Tyr | Ala | Pro | Leu | Gln | Gln | Phe | Phe | Val | Val | Met |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Glu | His | Cys | Leu | Lys | His | Gly | Leu | Lys | Ala | Lys | Lys | Thr | Phe | Leu | Gly |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gln | Asn | Lys | Ser | Phe | Trp | Gly | Pro | Leu | Glu | Leu | Val | Glu | Lys | Leu | Val |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Pro | Glu | Ala | Ala | Glu | Ile | Thr | Ala | Ser | Val | Lys | Asp | Leu | Pro | Gly | Leu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Lys | Thr | Pro | Val | Gly | Arg | Gly | Arg | Ala | Trp | Leu | Arg | Leu | Ala | Leu | Met |
| 145 |     |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     | 160 |
| Gln | Lys | Lys | Leu | Ser | Glu | Tyr | Met | Lys | Ala | Leu | Ile | Asn | Lys | Lys | Glu |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Leu | Leu | Ser | Glu | Phe | Tyr | Glu | Pro | Asn | Ala | Leu | Met | Met | Glu | Glu | Glu |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Gly | Ala | Ile | Ile | Ala | Gly | Leu | Leu | Val | Gly | Leu | Asn | Val | Ile | Asp | Ala |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Asn | Phe | Cys | Met | Lys | Gly | Glu | Asp | Leu | Asp | Ser | Gln | Val | Gly | Val | Ile |
|     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |
| Asp | Phe | Ser | Met | Tyr | Leu | Lys | Asp | Gly | Asn | Ser | Ser | Lys | Gly | Thr | Glu |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     |     | 240 |
| Gly | Asp | Gly | Gln | Ile | Thr | Ala | Ile | Leu | Asp | Gln | Lys | Asn | Tyr | Val | Glu |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Glu | Leu | Asn | Arg | His | Leu | Asn | Ala | Thr | Val | Asn | Asn | Leu | Gln | Ala | Lys |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Val | Asp | Ala | Leu | Glu | Lys | Ser | Asn | Thr | Lys | Leu | Thr | Glu | Glu | Leu | Ala |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Val | Ala | Asn | Asn | Arg | Ile | Ile | Thr | Leu | Gln | Glu | Glu | Met | Glu | Arg | Val |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Lys | Glu | Glu | Ser | Ser | Tyr | Ile | Leu | Glu | Ser | Asn | Arg | Lys | Gly | Pro | Lys |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Gln | Asp | Arg | Thr | Ala | Glu | Gly | Gln | Ala | Leu | Ser | Glu | Ala | Arg | Lys | His |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Leu | Lys | Glu | Glu | Thr | Gln | Leu | Arg | Leu | Asp | Val | Glu | Lys | Glu | Leu | Glu |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Met | Gln | Ile | Ser | Met | Arg | Gln | Glu | Met | Glu | Leu | Ala | Met | Lys | Met | Leu |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Glu | Lys | Asp | Val | Cys | Glu | Lys | Gln | Asp | Ala | Leu | Val | Ser | Leu | Arg | Gln |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Gln | Leu | Asp | Asp | Leu | Arg | Ala | Leu | Lys | His | Glu | Leu | Ala | Phe | Lys | Leu |
| 385 |     |     |     |     | 390 |     |     |     |     |     |     |     |     |     |     |

<210> 3465

<211> 2904

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3465

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240  
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480  
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540  
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660  
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900  
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1020  
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1140  
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1200  
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1320  
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1380  
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1440  
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1500

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 1740  
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 1860  
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 1980  
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&lt;210&gt; 3466

&lt;211&gt; 315

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3466

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      20           25           30
Gly Arg His Arg Lys Leu Pro Glu Asn Trp Thr Asp Thr Arg Glu Thr
      35           40           45
Leu Leu Glu Gly Met Leu Phe Ser Leu Lys Tyr Leu Gly Met Thr Leu
      50           55           60
Val Glu Gln Pro Lys Gly Glu Glu Leu Ser Ala Ala Ala Ile Lys Arg
      65           70           75           80
Ile Val Ala Thr Ala Lys Ala Ser Gly Lys Lys Leu Gln Lys Val Thr
      85           90           95
Leu Lys Val Ser Pro Arg Gly Ile Ile Leu Thr Asp Asn Leu Thr Asn
      100          105          110
Gln Leu Ile Glu Asn Val Ser Ile Tyr Arg Ile Ser Tyr Cys Thr Ala
      115          120          125
Asp Lys Met His Asp Lys Val Phe Ala Tyr Ile Ala Gln Ser Gln His
      130          135          140
Asn Gln Ser Leu Glu Cys His Ala Phe Leu Cys Thr Lys Arg Lys Met
      145          150          155          160
Ala Gln Ala Val Thr Leu Thr Val Ala Gln Ala Phe Lys Val Ala Phe
      165          170          175
Glu Phe Trp Gln Val Ser Lys Glu Glu Lys Glu Lys Arg Asp Lys Ala
      180          185          190
Ser Gln Glu Gly Gly Asp Val Leu Gly Ala Arg Gln Asp Cys Thr Pro
      195          200          205
Pro Leu Lys Ser Leu Val Ala Thr Gly Asn Leu Leu Asp Leu Glu Glu
      210          215          220
Thr Ala Lys Ala Pro Leu Ser Thr Val Ser Ala Asn Thr Thr Asn Met
      225          230          235          240
Asp Glu Val Pro Arg Pro Gln Ala Leu Ser Gly Ser Ser Val Val Trp
      245          250          255
Glu Leu Asp Asp Gly Leu Asp Glu Ala Phe Ser Arg Leu Ala Gln Ser
      260          265          270
Arg Thr Asn Pro Gln Val Leu Asp Thr Gly Leu Thr Ala Gln Asp Met
      275          280          285
His Tyr Ala Gln Cys Leu Ser Pro Val Asp Trp Asp Lys Pro Asp Ser
      290          295          300
Ser Gly Thr Glu Gln Asp Asp Leu Phe Ser Phe
      305          310          315

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&lt;210&gt; 3467

&lt;211&gt; 638

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3467

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120
ggctctgaggt gaaggtccta ggagcatcag ttctctgttg ggatcaaggt tgctgggaca
180

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 300  
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 360  
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 420  
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 540  
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 638

<210> 3468

<211> 88

<212> PRT

<213> Homo sapiens

<400> 3468

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Leu | Ser | Ser | Trp | Leu | His | Arg | Glu | Glu | Thr | Leu | Val | Pro | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Tyr | Asp | Phe | Pro | Pro | Leu | Cys | Met | Ser | Gly | Leu | His | Asp | Phe | Gln | Phe |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Trp | Leu | Cys | Tyr | Thr | Ser | Cys | Tyr | Gln | Gln | Asn | Arg | Val | Ser | Leu | Gly |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Gln | Ser | Cys | Gly | Tyr | Thr | Ser | Val | Ser | Gln | Asp | Phe | Leu | Cys | Gln | Arg |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ala | Val | Lys | Leu | Arg | Thr | Lys | Val | Ile | Lys | Ile | Gln | Leu | Tyr | Tyr | Trp |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Ile | Val | Leu | Asp | Cys | Phe | Ser | Ser |     |     |     |     |     |     |     |     |
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<210> 3469

<211> 1710

<212> DNA

<213> Homo sapiens

<400> 3469

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 120  
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&lt;210&gt; 3470

&lt;211&gt; 322

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3470

Ala Ala Ala Pro Gly Asn Gly Arg Ala Ser Ala Pro Arg Leu Leu Leu

|     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|
| 1   |     | 5   |     | 10  |     | 15  |
| Leu | Phe | Leu | Val | Pro | Leu | Leu |
|     |     | 20  |     | 25  |     | 30  |
| Pro | Asp | Glu | Asp | Leu | Ser | His |
|     |     | 35  |     | 40  |     | 45  |
| Gln | Gln | Leu | Gln | Pro | Gln | Pro |
|     |     | 50  |     | 55  |     | 60  |
| Arg | Val | Glu | Lys | Ile | Phe | Thr |
| 65  |     |     |     | 70  |     | 75  |
| Glu | Asp | Pro | Ala | Thr | Gln | Thr |
|     |     |     | 85  |     | 90  |     |
| Ala | Ala | Ile | Ser | Val | Ile | Ile |
|     |     | 100 |     | 105 |     | 110 |
| Phe | Ile | Ala | Ala | Ile | Met | Ala |
|     |     | 115 |     | 120 |     | 125 |
| Ala | Gly | Ala | Met | Leu | Ala | Leu |
|     |     | 130 |     | 135 |     | 140 |
| Phe | Gly | Tyr | Ala | Thr | Thr | Val |
| 145 |     |     |     | 150 |     | 155 |
| Ser | Thr | Val | Leu | Phe | Ala | Ile |
|     |     |     | 165 |     | 170 |     |
| Leu | Lys | Met | Ser | Pro | Asp | Glu |
|     |     | 180 |     | 185 |     | 190 |
| Ala | Glu | Leu | Lys | Lys | Lys | Asp |
|     |     | 195 |     | 200 |     | 205 |
| Asn | Gly | Pro | Gly | Asp | Val | Glu |
|     |     | 210 |     | 215 |     | 220 |
| Lys | Lys | Trp | Leu | His | Phe | Ile |
| 225 |     |     | 230 |     | 235 |     |
| Leu | Thr | Phe | Leu | Ala | Glu | Trp |
|     |     |     | 245 |     | 250 |     |
| Val | Leu | Ala | Ala | Arg | Glu | Asp |
|     |     | 260 |     | 265 |     | 270 |
| Val | Gly | His | Cys | Leu | Cys | Thr |
|     |     | 275 |     | 280 |     | 285 |
| Ile | Ala | Gln | Lys | Ile | Ser | Val |
|     |     | 290 |     | 295 |     | 300 |
| Val | Phe | Leu | Ala | Phe | Ala | Phe |
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| Gly | Phe |     |     |     |     |     |

&lt;210&gt; 3471

&lt;211&gt; 2335

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3471

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<211> 631

<212> PRT

<213> Homo sapiens

<400> 3472

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Arg | Val | Ala | Leu | Ala | Asp | Ile | Ala | Phe | Thr | Gly | Gly | Gly | Asn | Ile |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Val | Val | Ala | Thr | Ala | Asp | Gly | Ser | Ser | Ala | Ser | Pro | Val | Gln | Phe | Tyr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Lys | Val | Cys | Val | Ser | Val | Val | Ser | Glu | Lys | Cys | Arg | Ile | Asp | Thr | Glu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ile | Leu | Pro | Ser | Leu | Phe | Met | Arg | Cys | Thr | Thr | Asp | Leu | Asn | Arg | Lys |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asp | Lys | Phe | Pro | Ala | Ile | Thr | His | Leu | Lys | Phe | Leu | Ala | Arg | Asp | Met |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ser | Glu | Gln | Val | Leu | Leu | Cys | Ala | Ser | Ser | Gln | Thr | Ser | Ser | Ile | Val |
|     |     |     |     | 85  |     |     |     |     |     | 90  |     |     |     | 95  |     |
| Glu | Cys | Trp | Ser | Leu | Arg | Lys | Glu | Gly | Leu | Pro | Val | Asn | Asn | Ile | Phe |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gln | Gln | Ile | Ser | Pro | Val | Val | Gly | Asp | Lys | Gln | Pro | Thr | Ile | Leu | Lys |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Trp | Arg | Ile | Leu | Ser | Ala | Thr | Asn | Asp | Leu | Asp | Arg | Val | Ser | Ala | Val |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ala | Leu | Pro | Lys | Leu | Pro | Ile | Ser | Leu | Thr | Asn | Thr | Asp | Leu | Lys | Val |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Ala | Ser | Asp | Thr | Gln | Phe | Tyr | Pro | Gly | Leu | Gly | Leu | Ala | Leu | Ala | Phe |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     | 175 |     |     |
| His | Asp | Gly | Ser | Val | His | Ile | Val | His | Arg | Leu | Ser | Leu | Gln | Thr | Met |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ala | Val | Phe | Tyr | Ser | Ser | Ala | Ala | Pro | Arg | Pro | Val | Asp | Glu | Pro | Ala |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Met | Lys | Arg | Pro | Arg | Thr | Ala | Gly | Pro | Ala | Val | His | Leu | Lys | Ala | Met |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Gln | Leu | Ser | Trp | Thr | Ser | Leu | Ala | Leu | Val | Gly | Ile | Asp | Ser | His | Gly |

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225          230          235          240
Lys Leu Ser Val Leu Arg Leu Ser Pro Ser Met Gly His Pro Leu Glu
          245          250          255
Val Gly Leu Ala Leu Arg His Leu Leu Phe Leu Leu Glu Tyr Cys Met
          260          265          270
Val Thr Gly Tyr Asp Trp Trp Asp Ile Leu Leu His Val Gln Pro Ser
          275          280          285
Met Val Gln Ser Leu Val Glu Lys Leu His Glu Glu Tyr Thr Arg Gln
          290          295          300
Thr Ala Ala Leu Gln Gln Val Leu Ser Thr Arg Ile Leu Ala Met Lys
305          310          315          320
Ala Ser Leu Cys Lys Leu Ser Pro Cys Thr Val Thr Arg Val Cys Asp
          325          330          335
Tyr His Thr Lys Leu Phe Leu Ile Ala Ile Ser Ser Thr Leu Lys Ser
          340          345          350
Leu Leu Arg Pro His Phe Leu Asn Thr Pro Asp Lys Ser Pro Gly Asp
          355          360          365
Arg Leu Thr Glu Ile Cys Thr Lys Ile Thr Asp Val Asp Ile Asp Lys
          370          375          380
Val Met Ile Asn Leu Lys Thr Glu Glu Phe Val Leu Asp Met Asn Thr
385          390          395          400
Leu Gln Ala Leu Gln Gln Leu Leu Gln Trp Val Gly Asp Phe Val Leu
          405          410          415
Tyr Leu Leu Ala Ser Leu Pro Asn Gln Gly Ser Leu Leu Arg Pro Gly
          420          425          430
His Ser Phe Leu Arg Asp Gly Thr Ser Leu Gly Met Leu Arg Glu Leu
          435          440          445
Met Val Val Ile Arg Ile Trp Gly Leu Leu Lys Pro Ser Cys Leu Pro
          450          455          460
Val Tyr Thr Ala Thr Ser Asp Thr Gln Asp Ser Met Ser Leu Leu Phe
465          470          475          480
Arg Leu Leu Thr Lys Leu Trp Ile Cys Cys Arg Asp Glu Gly Pro Ala
          485          490          495
Ser Glu Pro Asp Glu Ala Leu Val Asp Glu Cys Cys Leu Leu Pro Ser
          500          505          510
Gln Leu Leu Ile Pro Ser Leu Asp Trp Leu Pro Ala Ser Asp Gly Leu
          515          520          525
Val Ser Arg Leu Gln Pro Lys Gln Pro Leu Arg Leu Gln Phe Gly Arg
          530          535          540
Ala Pro Thr Leu Pro Gly Ser Ala Ala Thr Leu Gln Leu Asp Gly Leu
545          550          555          560
Ala Arg Ala Pro Gly Gln Pro Lys Ile Asp His Leu Arg Arg Leu His
          565          570          575
Leu Gly Ala Cys Pro Thr Glu Glu Cys Lys Ala Cys Thr Arg Cys Gly
          580          585          590
Cys Val Thr Met Leu Lys Ser Pro Asn Arg Thr Thr Ala Val Lys Gln
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Trp Glu Gln Arg Trp Ile Lys Asn Cys Leu Cys Gly Gly Leu Trp Trp
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Arg Val Pro Leu Ser Tyr Pro
625          630

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&lt;210&gt; 3473

&lt;211&gt; 1660

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3473

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<210> 3474

<211> 474

<212> PRT

<213> Homo sapiens

<400> 3474

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| Met | Ala | Tyr | Ile | Gln | Leu | Glu | Pro | Leu | Asn | Glu | Gly | Phe | Leu | Ser | Arg |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ile | Ser | Gly | Leu | Leu | Leu | Cys | Arg | Trp | Thr | Cys | Arg | His | Cys | Cys | Gln |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Lys | Cys | Tyr | Glu | Ser | Ser | Cys | Cys | Gln | Ser | Ser | Glu | Asp | Glu | Val | Glu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ile | Leu | Gly | Pro | Phe | Pro | Ala | Gln | Thr | Pro | Pro | Trp | Leu | Met | Ala | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Arg | Ser | Ser | Asp | Lys | Asp | Gly | Asp | Ser | Val | His | Thr | Ala | Ser | Glu | Val |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Pro | Leu | Thr | Pro | Arg | Thr | Asn | Ser | Pro | Asp | Gly | Arg | Arg | Ser | Ser | Ser |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Asp | Thr | Ser | Lys | Ser | Thr | Tyr | Ser | Leu | Thr | Arg | Arg | Ile | Ser | Ser | Leu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Glu | Ser | Arg | Arg | Pro | Ser | Ser | Pro | Leu | Ile | Asp | Ile | Lys | Pro | Ile | Glu |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Phe | Gly | Val | Leu | Ser | Ala | Lys | Lys | Glu | Pro | Ile | Gln | Pro | Ser | Val | Leu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Arg | Arg | Thr | Tyr | Asn | Pro | Asp | Asp | Tyr | Phe | Arg | Lys | Phe | Glu | Pro | His |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Leu | Tyr | Ser | Leu | Asp | Ser | Asn | Ser | Asp | Asp | Val | Asp | Ser | Leu | Thr | Asp |
|     |     |     |     | 165 |     |     |     |     |     | 170 |     |     |     | 175 |     |
| Glu | Glu | Ile | Leu | Ser | Lys | Tyr | Gln | Leu | Gly | Met | Leu | His | Phe | Ser | Thr |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Gln | Tyr | Asp | Leu | Leu | His | Asn | His | Leu | Thr | Val | Arg | Val | Ile | Glu | Ala |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |
| Arg | Asp | Leu | Pro | Pro | Pro | Ile | Ser | His | Asp | Gly | Ser | Arg | Gln | Asp | Met |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ala | His | Ser | Asn | Pro | Tyr | Val | Lys | Ile | Cys | Leu | Leu | Pro | Asp | Gln | Lys |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Asn | Ser | Lys | Gln | Thr | Gly | Val | Lys | Arg | Lys | Thr | Gln | Lys | Pro | Val | Phe |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Glu | Glu | Arg | Tyr | Thr | Phe | Glu | Ile | Pro | Phe | Leu | Glu | Ala | Gln | Arg | Arg |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Thr | Leu | Leu | Leu | Thr | Val | Val | Asp | Phe | Asp | Lys | Phe | Ser | Arg | His | Cys |
|     |     |     | 275 |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Val | Ile | Gly | Lys | Val | Ser | Val | Pro | Leu | Cys | Glu | Val | Asp | Leu | Val | Lys |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Gly | Gly | His | Trp | Trp | Lys | Ala | Leu | Ile | Pro | Ser | Ser | Gln | Asn | Glu | Val |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Glu | Leu | Gly | Glu | Leu | Leu | Leu | Ser | Leu | Asn | Tyr | Leu | Pro | Ser | Ala | Gly |

```

          325          330          335
Arg Leu Asn Val Asp Val Ile Arg Ala Lys Gln Leu Leu Gln Thr Asp
          340          345          350
Val Ser Gln Gly Ser Asp Pro Phe Val Lys Ile Gln Leu Val His Gly
          355          360          365
Leu Lys Leu Val Lys Thr Lys Lys Thr Ser Phe Leu Arg Gly Thr Ile
          370          375          380
Asp Pro Phe Tyr Asn Glu Ser Phe Ser Phe Lys Val Pro Gln Glu Glu
385          390          395          400
Leu Glu Asn Ala Ser Leu Val Phe Thr Val Phe Gly His Asn Met Lys
          405          410          415
Ser Ser Asn Asp Phe Ile Gly Arg Ile Val Ile Gly Gln Tyr Ser Ser
          420          425          430
Gly Pro Ser Glu Thr Asn His Trp Arg Arg Met Leu Asn Thr His Arg
          435          440          445
Thr Ala Val Glu Gln Trp His Ser Leu Arg Ser Arg Ala Glu Cys Asp
          450          455          460
Arg Val Ser Pro Ala Ser Leu Glu Val Thr
465          470

```

&lt;210&gt; 3475

&lt;211&gt; 514

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3475

```

acgcgtctgg agggctggtt cttctgcacg cccgcccgcg agctgctctg gctgggtgctg
60
cagcccttct tctactcact acggccgctc tgcgtccacc ccaaggccgt gacccgcatg
120
gaggtgctca acacgctggt gcagctggcg gccgacctgg ccattcttgc ctttggggg
180
ctcaagcccg tggtctacct gctggccagc tccttctctg gcctgggcct gcaccccatc
240
tcggggccact tcgtggccga gcactacatg ttcttcaagg gccacgagac ctactcctac
300
tatgggcctc tcaactggat caccttcaat gtgggctacc acgtggagca ccacgacttc
360
cccagcatcc cgggctacaa cctgccgctg gtgcggaaga tcgcgcccga gtactacgac
420
cacctgccgc agcaccactc ctgggtgaag gtgctctggg attttgtggt tgaggactcc
480
ctggggccct atgccagggt gaagcgggtg taca
514

```

&lt;210&gt; 3476

&lt;211&gt; 171

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3476

```

Thr Arg Leu Glu Gly Trp Phe Phe Cys Thr Pro Ala Arg Lys Leu Leu
1          5          10          15
Trp Leu Val Leu Gln Pro Phe Phe Tyr Ser Leu Arg Pro Leu Cys Val

```

```

                20                25                30
His Pro Lys Ala Val Thr Arg Met Glu Val Leu Asn Thr Leu Val Gln
      35                40                45
Leu Ala Ala Asp Leu Ala Ile Phe Ala Leu Trp Gly Leu Lys Pro Val
      50                55                60
Val Tyr Leu Leu Ala Ser Ser Phe Leu Gly Leu Gly Leu His Pro Ile
      65                70                75                80
Ser Gly His Phe Val Ala Glu His Tyr Met Phe Leu Lys Gly His Glu
      85                90                95
Thr Tyr Ser Tyr Tyr Gly Pro Leu Asn Trp Ile Thr Phe Asn Val Gly
      100                105                110
Tyr His Val Glu His His Asp Phe Pro Ser Ile Pro Gly Tyr Asn Leu
      115                120                125
Pro Leu Val Arg Lys Ile Ala Pro Glu Tyr Tyr Asp His Leu Pro Gln
      130                135                140
His His Ser Trp Val Lys Val Leu Trp Asp Phe Val Phe Glu Asp Ser
      145                150                155                160
Leu Gly Pro Tyr Ala Arg Val Lys Arg Val Tyr
      165                170

```

&lt;210&gt; 3477

&lt;211&gt; 356

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3477

```

gcgcgctcgc gctgcctgcc cggcggtctc cgggtcctcg tccagaccgg ccaccggagc
60
ttgacctcct gcatcgaccc ttccatggga cttaatgaag agcagaaaga atttcaaaaa
120
gtggcctttg actttgctgc ccgagagatg gctccaaata tggcagagtg ggaccagaag
180
gtaggcgttt ttcttgtgct tagacgttct aacaacagat gtctcaggca gacctttatc
240
tttgtctccc gataatgtaa ttgttaaag tctcctccac ttaccaactc ttactgcaag
300
tgagaatacc ggtagtggat gatttttctt agaaggcac ctagatcatc tgtaca
356

```

&lt;210&gt; 3478

&lt;211&gt; 116

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3478

```

Met Ile Arg Met Pro Ser Arg Lys Asn His Pro Leu Pro Val Phe Ser
1                5                10                15
Leu Ala Val Arg Val Gly Lys Trp Arg Arg His Leu Thr Ile Thr Leu
      20                25                30
Ser Gly Asp Lys Asp Lys Gly Leu Pro Glu Thr Ser Val Val Arg Thr
      35                40                45
Ser Lys His Lys Lys Asn Ala Tyr Leu Leu Val Pro Leu Cys His Ile
      50                55                60
Trp Ser His Leu Ser Gly Ser Lys Val Lys Gly His Phe Leu Lys Phe

```

```

65          70          75          80
Phe Leu Leu Phe Ile Lys Ser His Gly Arg Val Asp Ala Gly Gly Gln
          85          90          95
Ala Pro Val Ala Gly Leu Asp Glu Asp Pro Glu Thr Ala Gly Gln Ala
          100          105          110
Ala Glu Ala Arg
          115

```

<210> 3479  
 <211> 797  
 <212> DNA  
 <213> Homo sapiens

```

<400> 3479
nctttccaac ccagcctgaa ggggaaagcc acctcggagg acaccctcaa tctaaggaga
60
taccccggt ctgacaggat catgctgcag aagtggcaga aaagggacat cagcaathtt
120
gagtatctca tgtacctcaa caccgcggct gggagaacct gcaatgacta catgcagtac
180
ccagtgttcc cctgggtcct cgcagactac acctcagaga cattgaactt ggcaaatccg
240
aagattttcc gggatctttc aaagcccatg ggggctcaga ccaaggaaag gaagctgaaa
300
tttatccaga ggtttaaaga agttgagaaa actgaaggag acatgactgc ccagtgccac
360
tactacaccc actactcctc ggccatcatc gtggcctcct acctgggtccg gatgccaccc
420
ttcaccagg ccttctgcgc tctgcagggtg agctgctgcc actctctgta cacacacaca
480
cacacacaca cacacacata cgctgtatc acaagactaa gacctgtgct tgaacaaaga
540
caggatgcct ctgctaaaaa cttagtcatt agccagtgat tcccagttga cattggctcc
600
aggattctgg ctcaccagcc aaggcaggct gttcttctc agttacacct gcacatctgc
660
ccaacaaagt cttgcaaaat gattctaaaa aataagaaat gagacatgaa aaaaatgatt
720
taacataaat aagatttagt ggaaaaagaa aaagcaggaa acttggagac tagaaaggca
780
ggcgggtcaag gattaga
797

```

<210> 3480  
 <211> 192  
 <212> PRT  
 <213> Homo sapiens

```

<400> 3480
Xaa Phe Gln Pro Ser Leu Lys Gly Lys Ala Thr Ser Glu Asp Thr Leu
1          5          10          15
Asn Leu Arg Arg Tyr Pro Gly Ser Asp Arg Ile Met Leu Gln Lys Trp
20          25          30
Gln Lys Arg Asp Ile Ser Asn Phe Glu Tyr Leu Met Tyr Leu Asn Thr

```

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     | 35  |     |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Ala | Ala | Gly | Arg | Thr | Cys | Asn | Asp | Tyr | Met | Gln | Tyr | Pro | Val | Phe | Pro |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Trp | Val | Leu | Ala | Asp | Tyr | Thr | Ser | Glu | Thr | Leu | Asn | Leu | Ala | Asn | Pro |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Lys | Ile | Phe | Arg | Asp | Leu | Ser | Lys | Pro | Met | Gly | Ala | Gln | Thr | Lys | Glu |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Arg | Lys | Leu | Lys | Phe | Ile | Gln | Arg | Phe | Lys | Glu | Val | Glu | Lys | Thr | Glu |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Gly | Asp | Met | Thr | Ala | Gln | Cys | His | Tyr | Tyr | Thr | His | Tyr | Ser | Ser | Ala |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Ile | Ile | Val | Ala | Ser | Tyr | Leu | Val | Arg | Met | Pro | Pro | Phe | Thr | Gln | Ala |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Phe | Cys | Ala | Leu | Gln | Val | Ser | Cys | Cys | His | Ser | Leu | Tyr | Thr | His | Thr |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| His | Thr | His | Thr | His | Thr | Tyr | Ala | Cys | Ile | Thr | Arg | Leu | Arg | Pro | Val |  |  |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |  |
| Leu | Glu | Gln | Arg | Gln | Asp | Ala | Ser | Ala | Lys | Asn | Leu | Val | Ile | Ser | Gln |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |

```
<210> 3481
<211> 1794
<212> DNA
<213> Homo sapiens
```

```

<400> 3481
nncaacgtgg tcaccacctc acgaactata agaagcgtgt ggcagccttg gaagccacgc
60
aaaagcccag cacttcccag agccagggac tgacacaaca gaaagtctgc aagcaatgcc
120
atgaggtcct gaccagaggg tcttctgcc aatgcctcaa gtggtcacca cctcagctct
180
gcagaccctg cggtgctggg agccaccatg gagagtaggt gctacggctg cgtgtgcaag
240
ttcaccctct tcaagaagga gtacggctgt aagaattgtg gcaggngctt ctgttcaggg
300
tgccctaaagc tcagtgcagc agtgcctcgg actgggaaca cccaacagaa agtctgcaag
360
caatgccatg aggtcctgac cagaggggtct tctgccaatg cctccaagtg gtcaccacct
420
cagaactata agaagcgtgt ggcagccttg gaagccaagc aaaagcccag cacttcccag
480
agccagggac tgacacgaca agaccagatg attgctgagc gcctagcacg actccgccag
540
gagaacaagc ccaagttagt cccctcacag gcagagatag aggcacggct ggctgcctta
600
aaggatgaac gtcagggttc catcccttcc acccaggaaa tggaggcacg acttgcacgc
660
ttgcagggca gagttctacc ttctcaaacc cccagcccg gcacatcaca caccggacac
720
caggacccaa gcccagcaga cacaggatct gctaacgcag ctggcagctg aggtggctat
780
cagtgaaagc tggaaaggag gaggccagc tgctctcttc cagaatgatc tcaaccaggg
840

```

tggcccaggg agcactaatt ccaagaggca ggccacttgg ttcttggaga aggagaagag  
 900  
 cagactgctg gctgaggcag cacttgagtt gcgggaggag aacacgaggc aggaacggat  
 960  
 tctggccctg gccaaagcgac tagccatgct gcggggacag gaccccgaga gagtgcacct  
 1020  
 ccaggactat cgcctcccag acagtgatga cgacgaggat gaggagacag ccatccaaag  
 1080  
 agtcctgcag cagctcactg aagaagcttc cctggatgag gcaagtggct ttaacatccc  
 1140  
 tgcagagcag gcttctcgac cctggacgca accccgcggg gcagagcctg agggccagga  
 1200  
 tgtggacccc aggcctgagg ctgaggaaga ggagctcccc tgggtgctgca tctgcaatga  
 1260  
 ggatgccacc ctacgctgcg ctggctgcga tggggacctc ttctgtgccg gctgcttccg  
 1320  
 agagggccat gatgcctttg agcttaaaga gcaccagaca tctgcctact ctctccacg  
 1380  
 tgcaggccaa gagcactgaa gacaccctgg tcctcccgga agggcagtcc cacaggcagc  
 1440  
 ggcacccatt tctgggcccc gccacaggac gtccgatggg agagcttgtc tggctctact  
 1500  
 gatgatggat agggcccttc ctgagccttg gtgtccctgg aatgaggaaa gattctccat  
 1560  
 tgcagagaat gactgggagg gaagaagtcg gggccctcct attagaagcc cagactggaa  
 1620  
 gtgagaggca tgatggggag agaccagact gaatctacgg gtgagccctg taacctggct  
 1680  
 ctagggcaca ggcccctccc ctggcactta gtgggtctaa taaagtatgt tgattcattg  
 1740  
 ggaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa  
 1794

&lt;210&gt; 3482

&lt;211&gt; 206

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3482

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Pro | Pro | Ser | Gly | His | His | Leu | Ser | Ser | Ala | Asp | Pro | Ala | Val | Leu |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Gly | Ala | Thr | Met | Glu | Ser | Arg | Cys | Tyr | Gly | Cys | Ala | Val | Lys | Phe | Thr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Phe | Lys | Lys | Glu | Tyr | Gly | Cys | Lys | Asn | Cys | Gly | Arg | Xaa | Phe | Cys |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ser | Gly | Cys | Leu | Ser | Phe | Ser | Ala | Ala | Val | Pro | Arg | Thr | Gly | Asn | Thr |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gln | Gln | Lys | Val | Cys | Lys | Gln | Cys | His | Glu | Val | Leu | Thr | Arg | Gly | Ser |
|     |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Ser | Ala | Asn | Ala | Ser | Lys | Trp | Ser | Pro | Pro | Gln | Asn | Tyr | Lys | Lys | Arg |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Val | Ala | Ala | Leu | Glu | Ala | Lys | Gln | Lys | Pro | Ser | Thr | Ser | Gln | Ser | Gln |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gly | Leu | Thr | Arg | Gln | Asp | Gln | Met | Ile | Ala | Glu | Arg | Leu | Ala | Arg | Leu |

```
<210> 3483
<211> 477
<212> DNA
<213> Homo sapiens
```

```
<210> 3484
<211> 147
<212> PRT
<213> Homo sapiens
```

265 1

```

          100          105          110
Asn Leu Pro Val Gly Val Pro Tyr Ala Ala Ser Phe Lys Lys Tyr His
          115          120          125
Val Asp His His Arg Tyr Leu Gly Gly Asp Gly Leu Asp Val Asp Val
          130          135          140
Pro Thr Arg
145

```

&lt;210&gt; 3485

&lt;211&gt; 812

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3485

```

tattttattta tagtcacaaa aactgttcag gaagaaatgt tatgaaaaga acattttttac
60
tgcattgctta aaacattttta ttttctatta tacagttaaa catttgcttg aattcagtga
120
gtctaaaaaaa tcttattggt ctcaggttag cagttagttg agcagagtcc attggtgaag
180
caatctagtt attggcaaat tctaacacat ggtaagggtgt gggggaaagg atttaaaaata
240
acagaaaaaat gtaagtacaa acatacataa cagcaaaaata aaactcactt taacaaaaaat
300
ttattttaaaa tgttaccccc atatttcctc aatgaccaac ttgtttcagt tttatctccc
360
cctcatccgg ttattttatg tctttttggg aggaaggagg atgagggttt ttgtttttta
420
acaaaatcac tggcttttta aaaagtgtta ctgcagtcac ttataagatg catgttatgt
480
ggaagtgata cctgagttgt ttgcatgggc aatggaagag gcagcagctc tgaaaggagt
540
atgagtcag aaaaaaatcc ttcaggaacc ttcaagattg aagaaagaac ttcttttaac
600
attaaagacc aagtattatt ggccagagtc tcttctgaga ttgtgagttt ttcattaact
660
ccttgtgtaa aagtcagtaa aatatcaatg atatcattct gaattttctg ttcactacta
720
tccaaacgac ctgagagggg gatagagcac aggagcatat gtaaagtaac aagcgctgaa
780
ggaacacgca tgtccttaaa ctcaaaggat cc
812

```

&lt;210&gt; 3486

&lt;211&gt; 117

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3486

```

Met Arg Val Pro Ser Ala Leu Val Thr Leu His Met Leu Leu Cys Ser
  1          5          10          15
Ile Pro Leu Ser Gly Arg Leu Asp Ser Asp Glu Gln Lys Ile Gln Asn
          20          25          30
Asp Ile Ile Asp Ile Leu Leu Thr Phe Thr Gln Gly Val Asn Glu Lys

```

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |     |  |
| Leu | Thr | Ile | Ser | Glu | Glu | Thr | Leu | Ala | Asn | Asn | Thr | Trp | Ser | Leu | Met |  |
| 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |  |
| Leu | Lys | Glu | Val | Leu | Ser | Ser | Ile | Leu | Lys | Val | Pro | Glu | Gly | Phe | Phe |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |
| Ser | Gly | Leu | Ile | Leu | Leu | Ser | Glu | Leu | Leu | Pro | Leu | Pro | Leu | Pro | Met |  |
| 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |     |     |     |  |
| Gln | Thr | Thr | Gln | Val | Ser | Leu | Pro | His | Asn | Met | His | Leu | Ile | Asn | Asp |  |
| 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |     |     |  |
| Cys | Ser | Asn | Thr | Phe |     |     |     |     |     |     |     |     |     |     |     |  |
| 115 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |

<210> 3487

<211> 772

<212> DNA

<213> Homo sapiens

<400> 3487

```

60      nnattgtatc  aaaatcctag  atttgaataa  cttattatatt  taaataatca  gtaactaaaa
ccaagcaatc  catcacacaa  agaggggaaa  gggtaatat  ctgagttata  aattttttac
120      cctgtctgat  aaaaatagaa  gcctgaaagt  ttaaaattttt  cctggatttta  aatttaaaga
180      taaatttggt  tttcagtgaa  atatcctcaa  tagcaatttt  accaaagagg  ctttcttctg
240      aaggccacct  ctgaaataat  tagaggataa  atgtcaatgg  catgatatta  agatattact
300      tggccaggcg  tggtcgtcac  gcgtgtaatc  ccagcacttt  gggaggccga  ggcagggtgga
360      tcacgaggtc  aagaaatcga  gaccagcctg  gctaacacag  tgaaaccccg  tctcattctg
420      agctttctga  caccttttaa  tccagtcact  gaaattagca  tctgcacct  gaaagaaaaa
480      actgactata  acatcactca  tctgcacaac  ctattaatca  gcaaatactt  actgaatacc
540      tactacatcc  caggcagtgt  tctaggcact  ggggagtcgg  cagcgaacaa  aacctgtctt
600      aacagacctt  atcaccaact  ctactatagt  tataaacata  ccaatagttt  aacatttagt
660      tgттаатсат  gaaacatttt  gattttttta  aaatttttaac  tacagtcaac  cttaatttca
720      cagatacaaa  taatctgcat  ttcccccaat  cccgctgctc  ttagagaagc  tt
772

```

<210> 3488

<211> 59

<212> PRT

<213> Homo sapiens

<400> 3488

Asp Ile Thr Trp Pro Gly Val Val Val Thr Arg Val Ile Pro Ala Leu  
1 5 10 15  
Trp Glu Ala Glu Ala Gly Gly Ser Arg Gly Gln Glu Ile Glu Thr Ser

```

                20                25                30
Leu Ala Asn Thr Val Lys Pro Arg Leu Ile Leu Ser Phe Leu Thr Pro
                35                40                45
Phe Asn Pro Val Thr Glu Ile Ser Ile Cys Thr
                50                55

```

<210> 3489  
 <211> 288  
 <212> DNA  
 <213> Homo sapiens

```

<400> 3489
tagctaacac tccactatgg gagcccatct cctcccaggg ccagggagac cagggagacc
60
agggagacca ggtctggccc ccaactotaa ggctcatctt agaggcgaga ttcaggccca
120
gcccaggggtg ccccatgagg cctggtggtt ggaggcagag ggtatccctt gccc aaattc
180
gtgccacatt cacagtcact gggaaagcta cggggatggg ccgggcgcgg tggctcacac
240
ctgtaatccc agcactttgg agagcccaa gacgacggat cacgagtc
288

```

<210> 3490  
 <211> 90  
 <212> PRT  
 <213> Homo sapiens

```

<400> 3490
Met Gly Ala His Leu Leu Pro Gly Pro Gly Arg Pro Gly Arg Pro Gly
1          5          10          15
Arg Pro Gly Leu Ala Pro Asn Ser Lys Ala His Leu Arg Gly Glu Ile
20          25          30
Gln Ala Gln Pro Arg Val Pro His Glu Ala Trp Trp Leu Glu Ala Glu
35          40          45
Gly Ile Pro Cys Pro Asn Ser Cys His Ile His Ser His Trp Glu Ser
50          55          60
Tyr Gly Asp Gly Pro Gly Ala Val Ala His Thr Cys Asn Pro Ser Thr
65          70          75          80
Leu Glu Ser Pro Lys Thr Thr Asp His Glu
85          90

```

<210> 3491  
 <211> 568  
 <212> DNA  
 <213> Homo sapiens

```

<400> 3491
gggaaccgac gtcctctgt ggtgaaattc cacccttca cgcctgcat cgcctagcc
60
gacaaggaca gcattctgctt ttgggactgg gagaaagggg agaagctgga ttatttccac
120
aatgggaacc ctcggtacac gagggtcact gccatggagt atctgaatgg ccaggactgc
180

```

tcgcttctgc tgacggccac agacgatggg gccatcaggg tctggaagaa ttttgcgtgat  
 240  
 ttggaaaaga acccagagat ggtgaccgcg tggcaggggc tctcggacat gctgccaacg  
 300  
 acgcgaggag ctgggatggg ggtggactgg gagcaggaga cgggcctcct catgagctca  
 360  
 ggagacgtgc ggatcgctcg gatctgggac acagaccgtg agatgaaggt gcaggacatc  
 420  
 cctacgggcg cagacagctg tgtgacgagt ctgtcctgtg attcccaccg ctcactcatc  
 480  
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 540  
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<211> 189

<212> PRT

<213> Homo sapiens

<400> 3492

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| Gly | Asn | Arg | Arg | Pro | Ser | Val | Val | Lys | Phe | His | Pro | Phe | Thr | Pro | Cys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ile | Ala | Val | Ala | Asp | Lys | Asp | Ser | Ile | Cys | Phe | Trp | Asp | Trp | Glu | Lys |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Glu | Lys | Leu | Asp | Tyr | Phe | His | Asn | Gly | Asn | Pro | Arg | Tyr | Thr | Arg |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Val | Thr | Ala | Met | Glu | Tyr | Leu | Asn | Gly | Gln | Asp | Cys | Ser | Leu | Leu | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Thr | Ala | Thr | Asp | Asp | Gly | Ala | Ile | Arg | Val | Trp | Lys | Asn | Phe | Ala | Asp |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Leu | Glu | Lys | Asn | Pro | Glu | Met | Val | Thr | Ala | Trp | Gln | Gly | Leu | Ser | Asp |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     | 95  |     |     |
| Met | Leu | Pro | Thr | Thr | Arg | Gly | Ala | Gly | Met | Val | Val | Asp | Trp | Glu | Gln |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Glu | Thr | Gly | Leu | Leu | Met | Ser | Ser | Gly | Asp | Val | Arg | Ile | Val | Arg | Ile |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Trp | Asp | Thr | Asp | Arg | Glu | Met | Lys | Val | Gln | Asp | Ile | Pro | Thr | Gly | Ala |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Asp | Ser | Cys | Val | Thr | Ser | Leu | Ser | Cys | Asp | Ser | His | Arg | Ser | Leu | Ile |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Val | Ala | Gly | Leu | Gly | Asp | Gly | Ser | Ile | Arg | Val | Tyr | Asp | Arg | Arg | Met |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Ala | Leu | Ser | Glu | Cys | Arg | Val | Met | Thr | Tyr | Arg | Glu | His |     |     |     |
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<211> 2244

<212> DNA

<213> Homo sapiens

<400> 3493

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<211> 628

<212> PRT

<213> Homo sapiens

<400> 3494

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| Xaa | Gly | Gly | Tyr | Pro | Cys | Ser | Asp | Gln | Asp | Glu | Arg | Gly | Asp | Ser | Gly |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Gln | Pro | Ser | Asn | Lys | Glu | Leu | Phe | Gly | Asp | Asp | Ser | Glu | Asp | Glu | Gly |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Ser | His | His | Ser | Gly | Ser | Asp | Asn | His | Ser | Glu | Arg | Ser | Asp | Asn |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Arg | Ser | Glu | Ala | Ser | Glu | Arg | Ser | Asp | His | Glu | Asp | Asn | Asp | Pro | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asp | Val | Asp | Gln | His | Ser | Gly | Ser | Glu | Ala | Pro | Asn | Asp | Asp | Glu | Asp |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Glu | Gly | His | Arg | Ser | Asp | Gly | Gly | Ser | His | His | Ser | Glu | Ala | Glu | Gly |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ser | Glu | Lys | Ala | His | Ser | Asp | Asp | Glu | Lys | Trp | Gly | Arg | Glu | Asp | Lys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ser | Asp | Gln | Ser | Asp | Asp | Glu | Lys | Ile | Gln | Asn | Ser | Asp | Asp | Glu | Glu |
|     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Arg | Ala | Gln | Gly | Ser | Asp | Glu | Asp | Lys | Leu | Gln | Asn | Ser | Asp | Asp | Asp |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Glu | Lys | Met | Gln | Asn | Thr | Asp | Asp | Glu | Glu | Arg | Pro | Gln | Leu | Ser | Asp |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Asp | Glu | Arg | Gln | Gln | Leu | Ser | Glu | Glu | Glu | Lys | Ala | Asn | Ser | Asp | Asp |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Glu | Arg | Pro | Val | Ala | Ser | Asp | Asn | Asp | Asp | Glu | Lys | Gln | Asn | Ser | Asp |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Asp | Glu | Glu | Gln | Pro | Gln | Leu | Ser | Asp | Glu | Glu | Lys | Met | Gln | Asn | Ser |
|     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Asp | Asp | Glu | Arg | Pro | Gln | Ala | Pro | Asp | Glu | Glu | His | Arg | His | Ser | Asp |

|                     |                     |                             |
|---------------------|---------------------|-----------------------------|
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| Asp Glu Glu Glu Gln | Asp His Lys Ser Glu | Ser Ala Arg Gly Ser Asp     |
| 225                 | 230                 | 235                         |
| Ser Glu Asp Glu Val | Leu Arg Met Lys Arg | Lys Asn Ala Ile Ala Ser     |
| 245                 | 250                 | 255                         |
| Asp Ser Glu Ala Asp | Ser Asp Thr Glu Val | Pro Lys Asp Asn Ser Gly     |
| 260                 | 265                 | 270                         |
| Thr Met Asp Leu Phe | Gly Gly Ala Asp     | Asp Ile Ser Ser Gly Ser Asp |
| 275                 | 280                 | 285                         |
| Gly Glu Asp Lys Pro | Pro Thr Pro Gly Gln | Pro Val Asp Glu Asn Gly     |
| 290                 | 295                 | 300                         |
| Leu Pro Gln Asp Gln | Gln Glu Glu Glu Pro | Ile Pro Glu Thr Arg Ile     |
| 305                 | 310                 | 315                         |
| Glu Val Glu Ile Pro | Lys Val Asn Thr Asp | Leu Gly Asn Asp Leu Tyr     |
| 325                 | 330                 | 335                         |
| Phe Val Lys Leu Pro | Asn Phe Leu Ser Val | Glu Pro Arg Pro Phe Asp     |
| 340                 | 345                 | 350                         |
| Pro Gln Tyr Tyr Glu | Asp Glu Phe Glu Asp | Glu Glu Met Leu Asp Glu     |
| 355                 | 360                 | 365                         |
| Glu Gly Arg Thr Arg | Leu Lys Leu Lys Val | Glu Asn Thr Ile Arg Trp     |
| 370                 | 375                 | 380                         |
| Arg Ile Arg Arg Asp | Glu Glu Gly Asn Glu | Ile Lys Glu Ser Asn Ala     |
| 385                 | 390                 | 395                         |
| Arg Ile Val Lys Trp | Ser Asp Gly Ser Met | Ser Leu His Leu Gly Asn     |
| 405                 | 410                 | 415                         |
| Glu Val Phe Asp Val | Tyr Lys Ala Pro Leu | Gln Gly Asp His Asn His     |
| 420                 | 425                 | 430                         |
| Leu Phe Ile Arg Gln | Gly Thr Gly Leu Gln | Gly Gln Ala Val Phe Lys     |
| 435                 | 440                 | 445                         |
| Ala Lys Leu Thr Phe | Arg Pro His Ser Thr | Asp Ser Ala Thr His Arg     |
| 450                 | 455                 | 460                         |
| Lys Met Thr Leu Ser | Leu Ala Asp Arg Cys | Ser Lys Thr Gln Lys Ile     |
| 465                 | 470                 | 475                         |
| Arg Ile Leu Pro Met | Ala Gly Arg Asp Pro | Glu Cys Gln Arg Thr Glu     |
| 485                 | 490                 | 495                         |
| Met Ile Lys Lys Glu | Glu Glu Arg Leu Arg | Ala Ser Ile Arg Arg Glu     |
| 500                 | 505                 | 510                         |
| Ser Gln Gln Arg Arg | Met Arg Glu Lys Gln | His Gln Arg Gly Leu Ser     |
| 515                 | 520                 | 525                         |
| Ala Ser Tyr Leu Glu | Pro Asp Arg Tyr Asp | Glu Glu Glu Glu Gly Glu     |
| 530                 | 535                 | 540                         |
| Glu Ser Ile Ser Leu | Ala Ala Ile Lys Asn | Arg Tyr Lys Gly Gly Ile     |
| 545                 | 550                 | 555                         |
| Arg Glu Glu Arg Ala | Arg Ile Tyr Ser Ser | Asp Ser Asp Glu Gly Ser     |
| 565                 | 570                 | 575                         |
| Glu Glu Asp Lys Ala | Gln Arg Leu Leu Lys | Ala Lys Lys Leu Thr Ser     |
| 580                 | 585                 | 590                         |
| Asp Glu Glu Gly Glu | Pro Ser Gly Lys Arg | Lys Ala Glu Asp Asp Asp     |
| 595                 | 600                 | 605                         |
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<210> 3496  
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<211> 1638

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<213> Homo sapiens

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180

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&lt;210&gt; 3498

&lt;211&gt; 210

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3498

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      35           40           45
Gly Glu Asn Ala Gly Arg Pro Thr His Thr Thr Lys Met Glu Ser Ile
      50           55           60
Gln Val Leu Glu Glu Cys Gln Asn Pro Thr Ala Glu Glu Val Leu Ser
      65           70           75           80
Trp Ser Gln Asn Phe Asp Lys Met Met Lys Ala Pro Ala Gly Arg Asn
      85           90           95
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      100          105          110
Phe Trp Leu Ala Cys Glu Asp Leu Lys Lys Glu Gln Asn Lys Lys Val
      115          120          125
Ile Glu Glu Lys Ala Arg Met Ile Tyr Glu Asp Tyr Ile Ser Ile Leu
      130          135          140
Ser Pro Lys Glu Val Ser Leu Asp Ser Arg Val Arg Glu Val Ile Asn
      145          150          155          160
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      165          170          175
Gln Ile Tyr Thr Leu Met His Arg Asp Ser Phe Pro Arg Phe Leu Asn
      180          185          190
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Glu Ser
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&lt;210&gt; 3499

&lt;211&gt; 732

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3499

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<211> 168

<212> PRT

<213> Homo sapiens

<400> 3500

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Phe | Phe | Pro | Ser | Gly | Lys | Pro | Phe | Gln | Asp | Ser | Asp | Val | Asp | Val |
| 1   |     |     | 5   |     |     |     |     |     | 10  |     |     |     | 15  |     |     |
| Gly | Ala | Arg | Arg | Ser | Pro | Gly | Thr | Trp | Arg | Tyr | Arg | Gly | His | Ser | Ser |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Ala | Ser | Thr | Gly | Lys | Gln | Gly | Ala | Pro | Gly | Pro | Asp | Trp | Ala | Cys | Ile |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Phe | His | Val | Val | Leu | Gln | Pro | Ser | Arg | His | Gly | Pro | Glu | Ala | Thr | Ala |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Ala | Pro | Gln | Ser | Pro | Pro | Thr | Pro | Ala | Val | Pro | Pro | Gly | His | Gly | Ala |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| His | Asp | Ser | Gly | Pro | Gly | Gln | Arg | Gln | Arg | Gln | Gly | Ala | Gly | Ser | Thr |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Pro | Ala | Arg | Val | Pro | Val | His | Gly | Ser | Pro | Ser | Ser | Cys | Arg | Ala | Leu |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Arg | Pro | Ala | Gly | Arg | Ser | Ser | Arg | Ala | Ala | Pro | Arg | Ala | Ser | Pro | Ala |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Gly | Gln | Ala | Ser | Ser | Arg | Pro | Xaa | Ser | Gly | Ala | Met | His | Arg | Leu | Gly |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Glu | Gly | Asn | Arg | Ala | Gly | Glu | Lys | Val | Phe | Arg | Arg | Thr | Ala | Val | Gln |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     | 160 |     |
| Lys | Arg | Arg | Val | Gly | Gly | Gly | Thr |     |     |     |     |     |     |     |     |
|     |     |     |     |     | 165 |     |     |     |     |     |     |     |     |     |     |

<210> 3501

<211> 691

<212> DNA

<213> Homo sapiens

<400> 3501

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 120  
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 180  
 ctgtctacaa actgcattga aaaaattgcc aacctgaatg gcttaaaaaa cttgaggata  
 240  
 ttatcttttag gaagaaacaa cataaagaac ttaaattggac tggaggcagt aggggacaca  
 300

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 420  
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 480  
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 aagctggatg gtactccagt aattaaaggg gatgaggaag aagacaacta atgccacgct  
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 gtctatttta aaaaaaaaaa aaaaaaaaaa a  
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<210> 3502

<211> 196

<212> PRT

<213> Homo sapiens

<400> 3502

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Val | Ala | Thr | Ala | Gly | Met | Ala | Lys | Ala | Thr | Thr | Ile | Lys | Glu | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Ala | Arg | Trp | Glu | Glu | Lys | Thr | Gly | Gln | Arg | Pro | Ser | Glu | Ala | Lys |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Ile | Lys | Leu | Tyr | Ala | Gln | Ile | Pro | Pro | Ile | Glu | Lys | Met | Asp | Ala |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Ser | Leu | Ser | Met | Leu | Ala | Asn | Cys | Glu | Lys | Leu | Ser | Leu | Ser | Thr | Asn |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Cys | Ile | Glu | Lys | Ile | Ala | Asn | Leu | Asn | Gly | Leu | Lys | Asn | Leu | Arg | Ile |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Leu | Ser | Leu | Gly | Arg | Asn | Asn | Ile | Lys | Asn | Leu | Asn | Gly | Leu | Glu | Ala |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Val | Gly | Asp | Thr | Leu | Glu | Glu | Leu | Trp | Ile | Ser | Tyr | Asn | Phe | Ile | Glu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Lys | Leu | Lys | Gly | Ile | His | Ile | Met | Lys | Lys | Leu | Lys | Ile | Leu | Tyr | Met |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Ser | Asn | Asn | Leu | Val | Lys | Asp | Trp | Ala | Glu | Phe | Val | Lys | Leu | Ala | Glu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Leu | Pro | Cys | Leu | Glu | Asp | Leu | Val | Phe | Val | Gly | Asn | Pro | Leu | Glu | Glu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Lys | His | Ser | Ala | Glu | Asn | Asn | Trp | Ile | Glu | Glu | Ala | Thr | Lys | Arg | Val |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Pro | Lys | Leu | Lys | Lys | Leu | Asp | Gly | Thr | Pro | Val | Ile | Lys | Gly | Asp | Glu |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |
| Glu | Glu | Asp | Asn |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     | 195 |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 3503

<211> 857

<212> DNA

<213> Homo sapiens

<400> 3503

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 180  
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 240  
 cagctgcagc gagtccaccc caacgtgctt gctaaggcac tgacccgagg aattctccac  
 300  
 caggacaaga accttgtggt catcaataag ccctacggtc tccctgtgca tggtgccct  
 360  
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 480  
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 600  
 atccccattg tggagaagga ggggcaaggc cagcagcaac accccagaat gacattgtcc  
 660  
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 720  
 gttgctgtaa ctcagtacca ggtgctcagc agcactctct cctccgccct cgtggagctc  
 780  
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 840  
 ccaatccttg gtgatca  
 857

&lt;210&gt; 3504

&lt;211&gt; 285

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3504

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Ala | Pro | Arg | Trp | Ser | Ala | Ser | Gly | Pro | Trp | Ile | Arg | Gly | Asn | Gly |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Gln | Gly | Cys | Gly | Ser | Leu | Phe | Thr | Leu | Val | Ser | Lys | Pro | Phe | Cys | Ala |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Ala | Ala | Ala | Ser | Thr | Ala | Ile | Asn | Ala | Gln | Arg | Leu | Ala | Glu | Lys |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu | Arg | Ala | Gln | Lys | Arg | Glu | Gln | Asp | Thr | Lys | Lys | Glu | Pro | Val | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Thr | Asn | Ala | Val | Gln | Arg | Val | Gln | Glu | Ile | Val | Arg | Phe | Thr | Arg |     |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Gln | Leu | Gln | Arg | Val | His | Pro | Asn | Val | Leu | Ala | Lys | Ala | Leu | Thr | Arg |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Gly | Ile | Leu | His | Gln | Asp | Lys | Asn | Leu | Val | Val | Ile | Asn | Lys | Pro | Tyr |
|     |     |     | 100 |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Gly | Leu | Pro | Val | His | Gly | Gly | Pro | Gly | Val | Gln | Leu | Cys | Ile | Thr | Asp |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Val | Leu | Pro | Ile | Leu | Ala | Lys | Met | Leu | His | Gly | His | Lys | Ala | Glu | Pro |

|   |                         |                 |     |     |
|---|-------------------------|-----------------|-----|-----|
| 130   |                         | 135             |     | 140 |
| Leu His Leu Cys His Arg   | Leu Asp Lys Glu Thr Thr | Gly Val Met Val |     |     |
| 145   | 150                     | 155             | 160 |     |
| Leu Ala Trp Asp Lys Asp Met Ala His Gln Val Gln Glu Leu Phe Arg |                         |                 |     |     |
|   | 165                     | 170             | 175 |     |
| Thr Arg Gln Val Val Lys Lys Tyr Trp Ala Ile Thr Val His Val Pro |                         |                 |     |     |
|   | 180                     | 185             | 190 |     |
| Met Pro Ser Ala Gly Val Val Asp Ile Pro Ile Val Glu Lys Glu Gly |                         |                 |     |     |
|   | 195                     | 200             | 205 |     |
| Gln Gly Gln Gln Gln His Pro Arg Met Thr Leu Ser Pro Ser Ser Arg |                         |                 |     |     |
|   | 210                     | 215             | 220 |     |
| Met Asp Asp Gly Lys Met Val Lys Val Arg Arg Ser Arg Asn Ala Gln |                         |                 |     |     |
| 225   | 230                     | 235             | 240 |     |
| Val Ala Val Thr Gln Tyr Gln Val Leu Ser Ser Thr Leu Ser Ser Ala |                         |                 |     |     |
|   | 245                     | 250             | 255 |     |
| Leu Val Glu Leu Gln Pro Ile Thr Gly Ile Lys His Gln Leu Arg Val |                         |                 |     |     |
|   | 260                     | 265             | 270 |     |
| His Leu Ser Phe Gly Leu Asp Cys Pro Ile Leu Gly Asp             |                         |                 |     |     |
|   | 275                     | 280             | 285 |     |

&lt;210&gt; 3505

&lt;211&gt; 1612

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3505

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 120  
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 aaggttgtgg acttctctgt gaaggccatc atgcgcacca tgtggttcgc cggcggcttc  
 240  
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 300  
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 360  
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 480  
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 660  
 ggagcgtcgt aaatcctgtg gctcacgctg tgtcagtttc acaaccaagt ggaaatcgag  
 720  
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 aacgtgcggc gagtcatggc cgaggccttg ggtgtctcgg tgactgacta cacgttcgag  
 840

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 gaatttgcca ggctcgtgcg gggcctcggg ctaaaaccag aaaagcttga aaaagatctg  
 960  
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 1020  
 gccgcctccc tggaagtccc cgtttctgac ttgctggaag acatgttttc actgttcgac  
 1080  
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 1140  
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 1200  
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 1260  
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 1320  
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 1380  
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 1440  
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 1500  
 ctggattagg acccagggtt gcggagagac gcggccctc ccgctgggac atcaccgcca  
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<210> 3506

<211> 502

<212> PRT

<213> Homo sapiens

<400> 3506

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | His | Glu | Leu | His | Leu | Ser | Ala | Leu | Gln | Lys | Ala | Gln | Val | Ala | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Met | Thr | Leu | Thr | Leu | Phe | Pro | Val | Arg | Leu | Leu | Val | Ala | Ala | Ala | Met |
|     |     |     |     | 20  |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Met | Leu | Leu | Ala | Trp | Pro | Leu | Ala | Leu | Val | Ala | Ser | Leu | Gly | Ser | Ala |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Glu | Lys | Glu | Pro | Glu | Gln | Pro | Pro | Ala | Leu | Trp | Arg | Lys | Val | Val | Asp |
|     |     |     | 50  |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Phe | Leu | Leu | Lys | Ala | Ile | Met | Arg | Thr | Met | Trp | Phe | Ala | Gly | Gly | Phe |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| His | Arg | Val | Ala | Val | Lys | Gly | Arg | Gln | Ala | Leu | Pro | Thr | Glu | Ala | Ala |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Ile | Leu | Thr | Leu | Ala | Pro | His | Ser | Ser | Tyr | Phe | Asp | Ala | Ile | Pro | Val |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Thr | Met | Thr | Met | Ser | Ser | Ile | Val | Met | Lys | Thr | Glu | Ser | Arg | Asp | Ile |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Pro | Ile | Trp | Gly | Thr | Leu | Ile | Gln | Tyr | Ile | Arg | Pro | Val | Phe | Val | Ser |
|     |     |     | 130 |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Arg | Ser | Asp | Gln | Asp | Ser | Arg | Arg | Lys | Thr | Val | Glu | Glu | Ile | Lys | Arg |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     | 160 |     |
| Arg | Ala | Gln | Ser | Asn | Gly | Lys | Trp | Pro | Gln | Ile | Met | Ile | Phe | Pro | Glu |

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120
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 240  
 cacatgcctc agggagctga gcaacaccca cctgtttggg gctgttagct taggactctt  
 300  
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 360  
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 gaccgcaagt tcaccatcag cctcactgcc ttctcttcca tctgccccct ctccatcccc  
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 720  
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<210> 3508

<211> 199

<212> PRT

<213> Homo sapiens

<400> 3508

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Arg | Thr | Leu | Leu | Asn | Leu | Leu | Phe | Leu | Pro | Asp | Gly | Leu | Cys | Gln |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Arg | Arg | Leu | Leu | Cys | Glu | Val | Ala | Ile | Ala | Val | Tyr | Thr | Phe | Gly | Thr |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Cys | Ile | Ala | Phe | Leu | Ile | Ile | Ile | Gly | Asp | Gln | Gln | Asp | Lys | Ile | Ile |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Ala | Val | Met | Ala | Lys | Glu | Pro | Glu | Gly | Ala | Ser | Gly | Pro | Trp | Tyr | Thr |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Asp | Arg | Lys | Phe | Thr | Ile | Ser | Leu | Thr | Ala | Phe | Leu | Phe | Ile | Leu | Pro |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |     |
| Leu | Ser | Ile | Pro | Arg | Glu | Ile | Gly | Phe | Gln | Lys | Tyr | Ala | Ser | Phe | Leu |
|     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |     |
| Ser | Val | Val | Gly | Thr | Trp | Tyr | Val | Thr | Ala | Ile | Val | Ile | Ile | Lys | Tyr |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Ile | Trp | Pro | Asp | Lys | Glu | Met | Thr | Pro | Gly | Asn | Ile | Leu | Thr | Arg | Pro |
|     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |     |
| Ala | Ser | Trp | Met | Ala | Val | Phe | Asn | Ala | Met | Pro | Thr | Ile | Cys | Phe | Gly |
|     | 130 |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |     |
| Phe | Gln | Cys | His | Val | Ser | Ser | Val | Pro | Val | Phe | Asn | Ser | Met | Gln | Gln |
| 145 |     |     |     | 150 |     |     |     | 155 |     |     |     |     | 160 |     |     |
| Pro | Glu | Val | Lys | Thr | Trp | Gly | Gly | Val | Val | Thr | Ala | Ala | Met | Val | Ile |

165 170 175  
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 Gly Ala Ala Val Asp Pro Asp  
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 <211> 331  
 <212> DNA  
 <213> Homo sapiens

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 120  
 gccctctgcg acggctcccc gaccgagggg gagctcccca cgcacgagca ggtcttctcg  
 180  
 agccccccac ctctttaaag ccccgagggg cctgggttgc cccagaagtt ggaggagcgc  
 240  
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 331

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 35 40 45  
 Glu Gly Glu Leu Pro Thr His Glu Gln Val Phe Leu Ser Pro Pro Pro  
 50 55 60  
 Pro Leu Ser Pro Arg Gly Pro Gly Leu Pro Gln Lys Leu Glu Glu Arg  
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<211> 547

<212> PRT

<213> Homo sapiens

<400> 3516

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| Gln | Gln | Leu | Asp | Ile | Thr | Ser | Thr | Lys | Leu | Asn | Asn | Gln | Cys | Glu | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Ser | Gln | Leu | Lys | Gly | Asn | Leu | Glu | Glu | Glu | Asn | Arg | His | Leu | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asp | Gln | Ile | Gln | Thr | Leu | Met | Leu | Gln | Asn | Arg | Thr | Leu | Leu | Glu | Gln |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asn | Met | Glu | Ser | Lys | Asp | Leu | Phe | His | Val | Glu | Gln | Arg | Gln | Tyr | Ile |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asp | Lys | Leu | Asn | Glu | Leu | Arg | Arg | Gln | Lys | Glu | Lys | Leu | Glu | Glu | Lys |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ile | Met | Asp | Gln | Tyr | Lys | Phe | Tyr | Asp | Pro | Ser | Pro | Pro | Arg | Arg | Arg |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Gly | Asn | Trp | Ile | Thr | Leu | Lys | Met | Arg | Lys | Leu | Ile | Lys | Ser | Lys | Lys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Asp | Ile | Asn | Arg | Glu | Arg | Gln | Lys | Ser | Leu | Thr | Leu | Thr | Pro | Thr | Arg |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ser | Asp | Ser | Ser | Glu | Gly | Phe | Leu | Gln | Leu | Pro | His | Gln | Asp | Ser | Gln |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Asp | Ser | Ser | Ser | Val | Gly | Ser | Asn | Ser | Leu | Glu | Asp | Gly | Gln | Thr | Leu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Gly | Thr | Lys | Lys | Ser | Ser | Thr | Met | Asn | Asp | Leu | Val | Gln | Ser | Met | Val |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Leu | Ala | Gly | Gln | Trp | Thr | Gly | Ser | Thr | Glu | Asn | Leu | Glu | Val | Pro | Asp |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Asp | Ile | Ser | Thr | Gly | Lys | Arg | Arg | Lys | Glu | Leu | Gly | Ala | Met | Ala | Phe |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ser | Thr | Thr | Ala | Ile | Asn | Phe | Ser | Thr | Val | Asn | Ser | Ser | Ala | Gly | Phe |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Arg | Ser | Lys | Gln | Leu | Val | Asn | Asn | Lys | Asp | Thr | Thr | Ser | Phe | Glu | Asp |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Ile | Ser | Pro | Gln | Gly | Val | Ser | Asp | Asp | Ser | Ser | Thr | Gly | Ser | Arg | Val |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| His | Ala | Ser | Arg | Pro | Ala | Ser | Leu | Asp | Ser | Gly | Arg | Thr | Ser | Thr | Ser |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Asn | Ser | Asn | Asn | Asn | Ala | Ser | Leu | His | Glu | Val | Lys | Ala | Gly | Ala | Val |

|   |     |     |
|---|-----|-----|
| 275   | 280 | 285 |
| Asn Asn Gln Ser Arg Pro Gln Ser His Ser Ser Gly Glu Phe Ser Leu |     |     |
| 290   | 295 | 300 |
| Leu His Asp His Glu Ala Trp Ser Ser Ser Gly Ser Ser Pro Ile Gln |     |     |
| 305   | 310 | 315 |
| Tyr Leu Lys Arg Gln Thr Arg Ser Ser Pro Val Leu Gln His Lys Ile |     |     |
|   | 325 | 330 |
|   |     | 335 |
| Ser Glu Thr Leu Glu Ser Arg His His Lys Ile Lys Thr Gly Ser Pro |     |     |
|   | 340 | 345 |
|   |     | 350 |
| Gly Ser Glu Val Val Thr Leu Gln Gln Phe Leu Glu Glu Ser Asn Lys |     |     |
|   | 355 | 360 |
|   |     | 365 |
| Leu Thr Ser Val Gln Ile Lys Ser Ser Ser Gln Glu Asn Leu Leu Asp |     |     |
|   | 370 | 375 |
|   |     | 380 |
| Glu Val Met Lys Ser Leu Ser Val Ser Ser Asp Phe Leu Gly Lys Asp |     |     |
| 385   | 390 | 395 |
| Lys Pro Val Ser Cys Gly Leu Ala Arg Ser Val Ser Gly Lys Thr Pro |     |     |
|   | 405 | 410 |
|   |     | 415 |
| Gly Asp Phe Tyr Asp Arg Arg Thr Thr Lys Pro Glu Phe Leu Arg Pro |     |     |
|   | 420 | 425 |
|   |     | 430 |
| Gly Pro Arg Lys Thr Glu Asp Thr Tyr Phe Ile Ser Ser Ala Gly Lys |     |     |
|   | 435 | 440 |
|   |     | 445 |
| Pro Thr Pro Gly Thr Gln Gly Lys Ile Lys Leu Val Lys Glu Ser Ser |     |     |
|   | 450 | 455 |
|   |     | 460 |
| Leu Ser Arg Gln Ser Lys Asp Ser Asn Pro Tyr Ala Thr Leu Pro Arg |     |     |
| 465   | 470 | 475 |
| Ala Ser Ser Val Ile Ser Thr Ala Glu Gly Thr Thr Arg Arg Thr Ser |     |     |
|   | 485 | 490 |
|   |     | 495 |
| Ile His Asp Phe Leu Thr Lys Asp Ser Arg Leu Pro Ile Ser Val Asp |     |     |
|   | 500 | 505 |
|   |     | 510 |
| Ser Pro Pro Ala Ala Ala Asp Ser Asn Thr Thr Ala Ala Ser Asn Val |     |     |
|   | 515 | 520 |
|   |     | 525 |
| Asp Lys Val Gln Glu Ser Arg Asn Ser Lys Ser Arg Ser Arg Glu Gln |     |     |
|   | 530 | 535 |
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| Gln Ser Ser   |     |     |
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&lt;210&gt; 3517

&lt;211&gt; 342

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3517

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 Gln Arg Met Pro Asp Arg Pro Thr Ser Arg Pro Leu Leu Val Arg Ala  
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 Ser Leu Ser Pro Ser Gly Leu Gly Ala Cys Asp Thr Ala Leu Arg Pro  
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&lt;210&gt; 3520

&lt;211&gt; 303

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3520

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 35          40          45
Arg Glu Glu Leu Ala Arg Ile Gly Leu Val Pro Pro Pro Glu Glu Phe
 50          55          60
Ala Asn Gly Val Leu Leu Ala Thr Pro Leu Ala Gly Pro Gly Pro Ser
 65          70          75          80
Pro Thr Thr Val Pro Ser Pro Ala Ser Gly Lys Pro Ser Ser Glu Pro
 85          90          95
Pro Pro Ala Pro Glu Ser Ala Ala Asp Ser Gly Val Glu Glu Ala Asp
100          105          110
Thr Arg Ser Ser Ser Asp Pro His Leu Glu Thr Thr Ser Thr Ile Ser
115          120          125
Thr Val Ser Ser Met Ser Thr Leu Ser Ser Glu Ser Gly Glu Leu Thr
130          135          140
Asp Thr His Thr Ser Phe Ala Asp Gly His Thr Phe Leu Leu Glu Lys
145          150          155          160
Pro Pro Val Pro Pro Lys Pro Lys Leu Lys Ser Pro Leu Gly Lys Gly
165          170          175
Pro Val Thr Phe Arg Asp Pro Leu Leu Lys Gln Ser Ser Asp Ser Glu
180          185          190
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195          200          205
Ala Gly Pro Ala Arg Pro Arg Tyr Leu Phe Gln Arg Arg Ser Lys Leu
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225          230          235          240
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245          250          255
Lys Asp Thr Arg Ser Leu Gly Glu Glu Pro Val Gly Gly Leu Gly Ser
260          265          270
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&lt;210&gt; 3521

&lt;211&gt; 638

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3521

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<210> 3522

<211> 181

<212> PRT

<213> Homo sapiens

<400> 3522

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| Cys | Leu | Pro | Gly | Gly | Leu | Cys | Ala | Ala | Ile | Pro | Leu | His | Leu | Pro | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     | 15  |     |     |
| Leu | Leu | His | Thr | Pro | Arg | Leu | Pro | Ala | Leu | Pro | Pro | Arg | Pro | His | Gln |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Gln | His | Ala | Asp | Gln | Gly | Pro | Pro | Gly | Pro | His | Leu | Asp | Leu | His | Gln |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Asp | Leu | Gln | Ala | Glu | Pro | Leu | Arg | Pro | Ala | Gly | Leu | Gly | Gly | Gly | Leu |
| 50  |     |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Arg | Cys | Gly | Leu | Pro | Ser | Glu | Gln | Arg | Ala | Gly | Glu | Ala | Arg |     |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Gly | Leu | His | Leu | Leu | Gln | Asp | Pro | Thr | Pro | Gly | Arg | Leu | Cys | Gln | Ala |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     | 95  |     |     |     |
| Pro | Ala | Gly | Pro | Pro | Gly | Gly | Gly | His | Gly | Pro | Ala | Gly | Arg | Gly | Gln |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     | 110 |     |     |     |
| Pro | Ser | Arg | His | Arg | Pro | Gly | Glu | Pro | Gln | Gly | Gly | Arg | Gly | Gly | Xaa |
|     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Pro | Asp | Pro | Ser | Thr | Pro | Ser | Val | Arg | Gly | Ser | Gln | Arg | Thr | Ala | Ser |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Pro | Gly | Arg | Ala | Ser | Pro | Gly | Gly | Cys | Pro | Glu | Ala | Thr | Gly | Trp | Cys |
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| Cys | Arg | His | Thr | Arg | Ser | Ala | Pro | Thr | Pro | Leu | Leu | Pro | Pro | Cys | Pro |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Ser | Pro | Ala | Ser | Ser |     |     |     |     |     |     |     |     |     |     |     |
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<211> 2614

<212> DNA

<213> Homo sapiens

<400> 3523

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&lt;210&gt; 3524

&lt;211&gt; 444

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3524

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Pro | Asp | Pro | Leu | Ala | Ala | Glu | Thr | Ala | Ala | Gln | Gly | Leu | Thr |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Pro | Arg | Tyr | Phe | Thr | Trp | Asp | Glu | Val | Ala | Gln | Arg | Ser | Gly | Cys | Glu |
|     |     |     | 20  |     |     |     | 25  |     |     |     |     |     | 30  |     |     |
| Glu | Arg | Trp | Leu | Val | Ile | Asp | Arg | Lys | Val | Tyr | Asn | Ile | Ser | Asp | Phe |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Ser | Arg | Arg | His | Pro | Gly | Gly | Ser | Arg | Val | Ile | Ser | His | Tyr | Ala | Gly |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Gln | Asp | Ala | Thr | Asp | Pro | Phe | Val | Ala | Phe | His | Ile | Asn | Lys | Gly | Leu |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Val | Lys | Lys | Tyr | Met | Asn | Ser | Leu | Leu | Ile | Gly | Glu | Leu | Ser | Pro | Glu |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Gln | Pro | Ser | Phe | Glu | Pro | Thr | Lys | Asn | Lys | Glu | Leu | Thr | Asp | Glu | Phe |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Arg | Glu | Leu | Arg | Ala | Thr | Val | Glu | Arg | Met | Gly | Leu | Met | Lys | Ala | Asn |

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| Leu Leu Cys Ala Val Leu Leu Ser Ala Val Gln Ala Gln Ala Gly Trp |     |     |
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| Leu Gln His Asp Phe Gly His Leu Ser Val Phe Ser Thr Ser Lys Trp |     |     |
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| Asn His Leu Leu His His Phe Val Ile Gly His Leu Lys Gly Ala Pro |     |     |
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| Ala Ser Trp Trp Asn His Met His Phe Gln His His Ala Lys Pro Asn |     |     |
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| Cys Phe Arg Lys Asp Pro Asp Ile Asn Met His Pro Phe Phe Phe Ala |     |     |
| 225   | 230 | 235 |
| Leu Gly Lys Ile Leu Ser Val Glu Leu Gly Lys Gln Lys Lys Lys Tyr |     |     |
| 245   | 250 | 255 |
| Met Pro Tyr Asn His Gln His Lys Tyr Phe Phe Leu Ile Gly Pro Pro |     |     |
| 260   | 265 | 270 |
| Ala Leu Leu Pro Leu Tyr Phe Gln Trp Tyr Ile Phe Tyr Phe Val Ile |     |     |
| 275   | 280 | 285 |
| Gln Arg Lys Lys Trp Val Asp Leu Val Trp Met Ile Thr Phe Tyr Val |     |     |
| 290   | 295 | 300 |
| Arg Phe Phe Leu Thr Tyr Val Pro Leu Leu Gly Leu Lys Ala Phe Leu |     |     |
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| Gly Leu Phe Phe Ile Val Arg Phe Leu Glu Ser Asn Trp Phe Val Trp |     |     |
| 325   | 330 | 335 |
| Val Thr Gln Met Asn His Ile Pro Met His Ile Asp His Asp Arg Asn |     |     |
| 340   | 345 | 350 |
| Met Asp Trp Val Ser Thr Gln Leu Gln Ala Thr Cys Asn Val His Lys |     |     |
| 355   | 360 | 365 |
| Ser Ala Phe Asn Asp Trp Phe Ser Gly His Leu Asn Phe Gln Ile Glu |     |     |
| 370   | 375 | 380 |
| His His Leu Phe Pro Thr Met Pro Arg His Asn Tyr His Lys Val Ala |     |     |
| 385   | 390 | 395 |
| Pro Leu Val Gln Ser Leu Cys Ala Lys His Gly Ile Glu Tyr Gln Ser |     |     |
| 405   | 410 | 415 |
| Lys Pro Leu Leu Ser Ala Phe Ala Asp Ile Ile His Ser Leu Lys Glu |     |     |
| 420   | 425 | 430 |
| Ser Gly Gln Leu Trp Leu Asp Ala Tyr Leu His Gln                 |     |     |
| 435   | 440 |     |

&lt;210&gt; 3525

&lt;211&gt; 1116

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3525

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<213> Homo sapiens

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| Ile | Thr | Asp | Glu | Lys | Arg | Ile | Phe | Phe | Tyr | Ile | Val | Ala | Val | Ala | Asp |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Lys | Lys | Ser | Arg | Glu | Phe | Asn | Pro | Asn | Asn | Ser | Thr | Ala | Val | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Arg | Lys | Gly | Ile | Cys | Glu | Tyr | His | Leu | Lys | Asn | Tyr | Ala | Ala | Ala | Leu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Glu | Thr | Phe | Ile | Gly | Gly | Gln | Lys | Leu | Xaa | Ala | Asp | Ala | Asn | Phe | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asp | Trp | Ile | Lys | Arg | Cys | Gln | Glu | Ala | Gln | Asn | Gly | Ser | Glu | Ser | Glu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Val | Val | Met | Glu | Pro | Ala | Leu | Glu | Gly | Thr | Gly | Lys | Glu | Gly | Lys | Lys |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Ala | Ser | Ser | Arg | Lys | Arg | Thr | Leu | Ala | Glu | Pro | Pro | Ala | Lys | Gly | Leu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     | 110 |     |     |     |
| Leu | Gln | Pro | Val | Lys | Leu | Ser | Arg | Ala | Glu | Leu | Tyr | Lys | Glu | Pro | Thr |

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<212> DNA
<213> Homo sapiens
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<211> 281

<212> PRT

<213> Homo sapiens

<400> 3528

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| Gly | Gly | Thr | Gly | Leu | Gly | Arg | Asp | Glu | Asp | Pro | Val | Asp | Gln | Gly | Ser |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Leu | Phe | Phe | Ser | Cys | Ser | Pro | Arg | Gly | Pro | Pro | Gly | Pro | Arg | Gly | Arg |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Pro | Gly | Pro | Pro | Gly | Pro | Pro | Gly | Gly | Pro | Ile | Gln | Leu | Gln | Gln | Asp |
|     |     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |
| Asp | Leu | Gly | Ala | Ala | Phe | Gln | Thr | Trp | Met | Asp | Thr | Ser | Gly | Ala | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Arg | Pro | Glu | Ser | Tyr | Ser | Tyr | Pro | Asp | Arg | Leu | Val | Leu | Asp | Gln | Gly |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Gly | Glu | Ile | Phe | Lys | Thr | Leu | His | Tyr | Leu | Ser | Asn | Leu | Ile | Gln | Ser |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ile | Lys | Thr | Pro | Leu | Gly | Thr | Lys | Glu | Asn | Pro | Ala | Arg | Val | Cys | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Asp | Leu | Met | Asp | Cys | Glu | Gln | Lys | Met | Val | Asp | Gly | Thr | Tyr | Trp | Val |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Asp | Pro | Asn | Leu | Gly | Cys | Ser | Ser | Asp | Thr | Ile | Glu | Val | Ser | Cys | Asn |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Phe | Thr | His | Gly | Gly | Gln | Thr | Cys | Leu | Lys | Pro | Ile | Thr | Ala | Ser | Lys |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Val | Glu | Phe | Ala | Ile | Ser | Arg | Val | Gln | Met | Asn | Phe | Leu | His | Leu | Leu |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Ser | Ser | Glu | Val | Thr | Gln | His | Ile | Thr | Ile | His | Cys | Leu | Asn | Met | Thr |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Val | Trp | Gln | Glu | Gly | Thr | Gly | Gln | Thr | Pro | Ala | Lys | Gln | Ala | Val | Arg |
|     |     | 195 |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Phe | Arg | Ala | Trp | Asn | Gly | Gln | Ile | Phe | Glu | Ala | Gly | Gly | Gln | Phe | Arg |
|     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |
| Pro | Glu | Val | Ser | Met | Asp | Gly | Cys | Lys | Val | Gln | Asp | Gly | Arg | Trp | His |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |         |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------|
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240     |
| Gln | Thr | Leu | Phe | Thr | Phe | Arg | Thr | Gln | Asp | Pro | Gln | Gln | Leu | Pro Ile |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     | 255 |         |
| Ile | Ser | Val | Asp | Asn | Leu | Pro | Pro | Ala | Ser | Ser | Gly | Lys | Gln | Tyr Arg |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |         |
| Leu | Glu | Val | Gly | Pro | Ala | Cys | Phe | Leu |     |     |     |     |     |         |
|     |     | 275 |     |     |     |     |     | 280 |     |     |     |     |     |         |

&lt;210&gt; 3529

&lt;211&gt; 3026

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3529

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<211> 206

<212> PRT

<213> Homo sapiens

<400> 3530

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| Met | Ala | Ser | Val | Ser | Lys | Cys | Pro | Ser | Pro | Met | Pro | Pro | Ala | Pro | Trp |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Thr | Thr | Ala | Trp | Arg | Pro | Ala | Thr | Leu | Pro | Pro | Arg | Ser | Pro | Ser | His |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Cys | Xaa | Ser | Pro | Val | Ala | Gly | Val | Ala | His | Arg | Phe | His | Ser | Thr | Cys |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly | Lys | Asn | Val | Thr | Leu | Glu | Glu | Asp | Gly | Thr | Arg | Ala | Val | Arg | Ala |
|     |     |     | 50  |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ala | Gly | Tyr | Ala | His | Gly | Leu | Val | Phe | Ser | Thr | Lys | Glu | Leu | Arg | Ala |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Glu | Glu | Val | Phe | Glu | Val | Lys | Val | Glu | Glu | Leu | Asp | Glu | Lys | Trp | Ala |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Gly | Ser | Leu | Arg | Leu | Gly | Leu | Thr | Thr | Leu | Ala | Pro | Gly | Glu | Met | Gly |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Pro | Gly | Ala | Gly | Gly | Gly | Gly | Pro | Gly | Leu | Pro | Pro | Ser | Leu | Pro | Glu |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Leu | Arg | Thr | Lys | Thr | Thr | Trp | Met | Val | Ser | Ser | Cys | Glu | Val | Arg | Arg |
|     |     |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Asp | Gly | Gln | Leu | Gln | Arg | Met | Asn | Tyr | Gly | Arg | Asn | Leu | Glu | Arg | Leu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Gly | Val | Lys | Trp | Leu | Ala | Pro | Gly | Thr | Gly | Glu | Gly | Leu | Gly | Val | Glu |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Val | Ala | Gly | Arg | Gly | Gly | Leu | Asn | Ile | Val | Arg | Pro | Cys | Pro | Thr | Ser |
|     |     |     | 180 |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Val | Leu | Gly | Gly | Glu | Pro | Cys | Gly | Cys | Ser | Ser | Gly | Gly | Arg |     |     |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |

<210> 3531

<211> 879

<212> DNA

<213> Homo sapiens

<400> 3531

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 780  
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 879

&lt;210&gt; 3532

&lt;211&gt; 254

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3532

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Ile | Leu | Arg | Leu | Arg | Lys | Gly | Arg | Ser | Glu | Asp | Ile | Tyr | Arg | Ile |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Tyr | Ser | His | Asp | Gly | Thr | Asp | Ser | Pro | Pro | Asp | Ala | Asp | Glu | Val | Val |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ile | Val | Leu | Asn | Asn | Phe | Lys | Ser | Lys | Ile | Ile | Lys | Val | Lys | Val | Gln |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Lys | Lys | Ala | Asp | Met | Val | Asn | Glu | Asp | Leu | Leu | Ser | Asp | Gly | Thr | Ser |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Glu | Asn | Glu | Ser | Gly | Phe | Trp | Asp | Ser | Phe | Lys | Trp | Gly | Phe | Thr | Gly |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Gln | Lys | Thr | Glu | Glu | Val | Lys | Gln | Asp | Lys | Asp | Asp | Ile | Ile | Asn | Ile |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Phe | Ser | Val | Ala | Ser | Gly | His | Leu | Tyr | Glu | Arg | Phe | Leu | Arg | Ile | Met |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |
| Met | Leu | Ser | Val | Leu | Lys | Asn | Thr | Lys | Thr | Pro | Val | Lys | Phe | Trp | Phe |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Leu | Lys | Asn | Tyr | Leu | Ser | Pro | Thr | Phe | Lys | Glu | Phe | Ile | Pro | Tyr | Met |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ala | Asn | Glu | Tyr | Asn | Phe | Gln | Tyr | Glu | Leu | Val | Gln | Tyr | Lys | Trp | Pro |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Arg | Trp | Leu | His | Gln | Gln | Thr | Glu | Lys | Gln | Arg | Ile | Ile | Trp | Gly | Tyr |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Lys | Ile | Leu | Phe | Leu | Asp | Val | Leu | Phe | Pro | Leu | Val | Val | Asp | Lys | Phe |

|   |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|
|   | 180 |     | 185 |     | 190 |
| Leu Phe Val Asp Ala Asp Gln Ile Val Arg Thr Asp Leu Lys Glu Leu |     |     |     |     |     |
| 195   |     | 200 |     | 205 |     |
| Arg Asp Phe Asn Leu Asp Gly Ala Pro Tyr Gly Tyr Thr Pro Phe Cys |     |     |     |     |     |
| 210   |     | 215 |     | 220 |     |
| Asp Ser Arg Arg Glu Met Asp Gly Tyr Arg Phe Trp Lys Ser Gly Tyr |     |     |     |     |     |
| 225   |     | 230 |     | 235 | 240 |
| Trp Ala Ser His Leu Ala Gly Arg Lys Tyr His Ile Arg Tyr         |     |     |     |     |     |
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&lt;210&gt; 3533

&lt;211&gt; 1151

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3533

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 240  
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 360  
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<210> 3534

<211> 313

<212> PRT

<213> Homo sapiens

<400> 3534

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asn | Val | Asn | Ser | Met | Asp | Met | Thr | Gly | Gly | Leu | Ser | Val | Lys | Asp |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Pro | Ser | Gln | Ser | Gln | Ser | Arg | Leu | Pro | Gln | Trp | Thr | His | Pro | Asn | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Met | Asp | Asn | Leu | Pro | Ser | Ala | Ala | Ser | Pro | Leu | Glu | Gln | Asn | Pro | Ser |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Lys | His | Gly | Ala | Ile | Pro | Gly | Gly | Leu | Ser | Ile | Gly | Pro | Pro | Gly | Lys |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ser | Ser | Ile | Asp | Asp | Ser | Tyr | Gly | Arg | Tyr | Asp | Leu | Ile | Gln | Asn | Ser |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Glu | Ser | Pro | Ala | Ser | Pro | Pro | Val | Ala | Val | Pro | His | Ser | Trp | Ser | Arg |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ala | Lys | Ser | Asp | Ser | Asp | Lys | Ile | Ser | Asn | Gly | Ser | Ser | Ile | Asn | Trp |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Pro | Pro | Glu | Phe | His | Pro | Gly | Val | Pro | Trp | Lys | Gly | Leu | Gln | Asn | Ile |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Asp | Pro | Glu | Asn | Asp | Pro | Asp | Val | Thr | Pro | Gly | Ser | Val | Pro | Thr | Gly |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Pro | Thr | Ile | Asn | Thr | Thr | Ile | Gln | Asp | Val | Asn | Arg | Tyr | Leu | Leu | Lys |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Ser | Gly | Gly | Ser | Ser | Pro | Pro | Ser | Ser | Gln | Asn | Ala | Thr | Leu | Pro | Ser |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Ser | Ser | Ala | Trp | Pro | Leu | Ser | Ala | Ser | Gly | Tyr | Ser | Ser | Ser | Phe | Ser |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ser | Ile | Ala | Ser | Ala | Pro | Ser | Val | Ala | Gly | Lys | Leu | Ser | Asp | Ile | Lys |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ser | Thr | Trp | Ser | Ser | Gly | Pro | Thr | Ser | His | Thr | Gln | Ala | Ser | Leu | Ser |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| His | Glu | Leu | Trp | Lys | Val | Pro | Arg | Asn | Ser | Thr | Ala | Pro | Thr | Arg | Pro |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Pro | Pro | Gly | Leu | Thr | Asn | Pro | Lys | Pro | Ser | Ser | Thr | Trp | Gly | Ala | Ser |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Pro | Leu | Gly | Trp | Thr | Ser | Ser | Tyr | Ser | Ser | Gly | Ser | Ala | Trp | Ser | Thr |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Asp | Thr | Ser | Gly | Arg | Thr | Ser | Ser | Trp | Leu | Val | Leu | Arg | Asn | Leu | Thr |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Pro | Gln | Val | Gln | Tyr | Gly | Ala | Pro | Ala | Ser | Leu | Ser | Met | Ile | Gln | Gly |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Gly | Phe | Pro | Leu | Gly | Pro | Gln | Cys | Arg |     |     |     |     |     |     |     |
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<211> 723

<212> DNA

<213> Homo sapiens

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<210> 3536  
 <211> 163  
 <212> PRT  
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 Arg Val Ser Leu Leu Leu Leu Tyr Tyr Ile Ile His Gln Glu Glu Ile  
 35 40 45  
 Cys Ser Ser Lys Leu Asn Met Ser Asn Lys Glu Tyr Lys Phe Tyr Leu  
 50 55 60  
 His Ser Leu Leu Ser Leu Arg Gln Asp Glu Asp Ser Ser Phe Leu Ser  
 65 70 75 80  
 Gln Asn Glu Thr Glu Asp Ile Leu Ala Phe Thr Arg Gln Tyr Phe Asp  
 85 90 95  
 Thr Ser Gln Ser Gln Cys Met Glu Thr Lys Thr Leu Gln Lys Lys Ser  
 100 105 110  
 Gly Ile Val Ser Ser Glu Gly Ala Asn Glu Ser Thr Leu Pro Gln Leu  
 115 120 125  
 Ala Ala Met Ile Ile Thr Leu Ser Leu Gln Gly Val Cys Leu Gly Gln  
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Leu Asn Arg

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Gln Gly Val Ala Pro Gly Phe Arg His Ala Thr Thr Arg Ala Arg  
50 55 60  
Ala Thr His Ala Ser Cys Ala His Leu Thr His Thr Pro Leu Pro Gly  
65 70 75 80  
His Ala Asp Thr Pro Gln Pro His Thr Ser His Ala Val His Leu Arg  
85 90 95  
Leu Leu Thr Ser His Ala Gln Cys Trp Cys Thr Phe Ala Ser His Met

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                100                105                110
Leu Pro Ser Pro Pro Thr Gln Gly His Pro Thr Ala Pro Pro Cys Pro
                115                120                125
Cys Pro Ser Pro Ser Leu Glu Val Pro Cys Pro Ala Gly Pro Val Asn
                130                135                140
Met Gln Trp Glu Ser Gln Ala Val Gln Trp
145                150

```

&lt;210&gt; 3539

&lt;211&gt; 818

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3539

```

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120
cgggggggcg aggttgcaagt gagccgagat cgcgcaggta cgctccagtc tgggcgacaa
180
gagcgaaact cgatatcaaa aaaaaaaaaa acgtcctgat ccagagcct cttcacgcgt
240
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720
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818

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&lt;210&gt; 3540

&lt;211&gt; 180

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3540

```

Ser Val Cys Leu Asp Ala Ala Ala Asp Cys His Pro Tyr Pro Ala Ser
  1                5                10                15
Leu Pro Val Cys Gly Arg Pro Val Thr Pro Ile Ala Gln Asn Gln Thr
                20                25                30
Thr Leu Gly Ser Ser Arg Ala Lys Leu Gly Asn Phe Pro Trp Gln Ala

```

```

      35      40      45
Phe Thr Ser Ile His Gly Arg Gly Gly Gly Ala Leu Leu Gly Asp Arg
  50      55      60
Trp Ile Leu Thr Ala Ala His Thr Val Tyr Pro Lys Asp Ser Val Ser
  65      70      75      80
Leu Arg Lys Asn Gln Ser Val Asn Val Phe Leu Gly His Thr Ala Ile
      85      90      95
Asp Glu Met Leu Lys Leu Gly Asn His Pro Val His Arg Val Val Val
      100      105      110
His Pro Asp Tyr Arg Gln Asn Glu Ser His Asn Phe Ser Gly Asp Ile
      115      120      125
Ala Leu Leu Glu Leu Gln His Ser Ile Pro Leu Gly Pro Asn Val Leu
      130      135      140
Pro Val Cys Leu Pro Asp Asn Glu Thr Leu Tyr Arg Ser Gly Leu Leu
  145      150      155      160
Gly Tyr Val Ser Gly Phe Gly Met Glu Met Gly Trp Leu Thr Thr Glu
      165      170      175
Leu Lys Tyr Ser
      180

```

&lt;210&gt; 3541

&lt;211&gt; 722

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3541

```

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  120
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  180
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  240
aacgtggccg acagcacaga accaacgaaa cgtatgcttt cctccaagg gttagctgag
  300
ttggcacatc gagaatatca ggcaggagat tttgaggcag ctgagagaca ctgcatgcag
  360
ctctggagac aagagccaga caatactggg gtgcttttat tactttcatc tatacacttc
  420
cagtgtcgaa ggctggacag atctgctcac tttagcactc tggcaattaa acagaacccc
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  720
aa
  722

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&lt;210&gt; 3542

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 <212> PRT  
 <213> Homo sapiens

<400> 3542  
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 35 40 45  
 Arg Gln Glu Pro Asp Asn Thr Gly Val Leu Leu Leu Leu Ser Ser Ile  
 50 55 60  
 His Phe Gln Cys Arg Arg Leu Asp Arg Ser Ala His Phe Ser Thr Leu  
 65 70 75 80  
 Ala Ile Lys Gln Asn Pro Leu Leu Ala Glu Ala Tyr Ser Asn Leu Gly  
 85 90 95  
 Asn Val Tyr Lys Glu Arg Gly Gln Leu Gln Glu Ala Ile Glu His Tyr  
 100 105 110  
 Arg His Ala Leu Arg Leu Lys Pro Asp Phe Ile Asp Gly Tyr Ile Asn  
 115 120 125  
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 130 135 140  
 Ala Tyr Val Ser Ala Leu Gln Pro Gly  
 145 150

<210> 3543  
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 <212> DNA  
 <213> Homo sapiens

<400> 3543  
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 180  
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 240  
 tgatttgag cacttggaag atcactgttt tgtgttctac gacccaattg agaggattat  
 300  
 gtggagctaa gttttaccaa tcaggatcat ccttccttgt gggtttagcag gcagttataa  
 360  
 gattgcaaaa tgggtctccg gattcacttt gttgttgacc cacatgggtg gtgctgcatg  
 420  
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 480  
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 540  
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 600  
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 660

atgagaccaa agcgttccca tcactgtagc cgtgcggcc actgtgtgag gagaatggat  
 720  
 catcactgtc catggattaa caattgtgtt ggtgaagata atcattggct ctttctgcag  
 780  
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 840  
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 900  
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 960  
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 1020  
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<210> 3544

<211> 273

<212> PRT

<213> Homo sapiens

<400> 3544

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Leu | Arg | Ile | His | Phe | Val | Val | Asp | Pro | His | Gly | Trp | Cys | Cys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Met | Gly | Leu | Ile | Val | Phe | Val | Trp | Leu | Tyr | Asn | Ile | Val | Leu | Ile | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Lys | Ile | Val | Leu | Phe | Pro | His | Tyr | Glu | Glu | Gly | His | Ile | Pro | Gly | Ile |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu | Ile | Ile | Ile | Phe | Tyr | Gly | Ile | Ser | Ile | Phe | Cys | Leu | Val | Ala | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Val | Arg | Ala | Ser | Ile | Thr | Asp | Pro | Gly | Arg | Leu | Pro | Glu | Asn | Pro | Lys |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |
| Ile | Pro | His | Gly | Glu | Arg | Glu | Phe | Trp | Glu | Leu | Cys | Asn | Lys | Cys | Asn |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Leu | Met | Arg | Pro | Lys | Arg | Ser | His | His | Cys | Ser | Arg | Cys | Gly | His | Cys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Val | Arg | Arg | Met | Asp | His | His | Cys | Pro | Trp | Ile | Asn | Asn | Cys | Val | Gly |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Glu | Asp | Asn | His | Trp | Leu | Phe | Leu | Gln | Leu | Cys | Phe | Tyr | Thr | Glu | Leu |
|     | 130 |     |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |
| Leu | Thr | Cys | Tyr | Ala | Leu | Met | Phe | Ser | Phe | Cys | His | Tyr | Tyr | Tyr | Phe |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Leu | Pro | Leu | Lys | Lys | Arg | Asn | Leu | Asp | Leu | Phe | Val | Phe | Arg | His | Glu |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Leu | Ala | Ile | Met | Arg | Leu | Ala | Ala | Phe | Met | Gly | Ile | Thr | Met | Leu | Val |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     |     | 190 |     |
| Gly | Ile | Thr | Gly | Leu | Phe | Tyr | Thr | Gln | Leu | Ile | Gly | Ile | Ile | Thr | Pro |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Cys | Ser | Leu | Ile | Leu | Leu | Lys | Cys | Gly | Ser | Val | Ser | Asn | Asn | Ser | Leu |

|   |     |     |
|---|-----|-----|
| 210   | 215 | 220 |
| Gly Asp Leu Met Lys Ile Ser Glu Thr Phe Ala Leu Arg Ile Pro Ser |     |     |
| 225   | 230 | 235 |
| Phe Val Val Met Cys Pro Glu Asn Ser Ser Leu Arg Val Phe Asn Ser |     | 240 |
|   | 245 | 250 |
| Val Lys Leu Leu Leu Cys Leu Asp Ser Pro Leu Ile Gln Trp Ser Thr |     | 255 |
|   | 260 | 265 |
|   |     | 270 |

Lys

&lt;210&gt; 3545

&lt;211&gt; 3657

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3545

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480
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960
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1140

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 3657

&lt;210&gt; 3546

&lt;211&gt; 792

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3546

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Asn | Val | Trp | Arg | Val | Leu | Gly | Leu | Ala | Gln | Ala | Arg | Ala | Gly | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gln | Glu | Val | Trp | Pro | Ile | Ile | Trp | Leu | Arg | Leu | Thr | Leu | Ala | Leu | Thr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Ala | Asp | Pro | Gly | Trp | Ala | Ser | Ile | Ser | Arg | Gly | Val | Leu | Val | Cys |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asp | Glu | Cys | Cys | Ser | Val | His | Arg | Ser | Leu | Gly | Arg | His | Ile | Ser | Ile |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Val | Lys | His | Leu | Arg | His | Ser | Ala | Trp | Pro | Pro | Thr | Leu | Leu | Gln | Met |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Val | His | Thr | Leu | Ala | Ser | Asn | Gly | Ala | Asn | Ser | Ile | Trp | Glu | His | Ser |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Leu | Leu | Asp | Pro | Ala | Gln | Val | Gln | Ser | Gly | Arg | Arg | Lys | Ala | Asn | Pro |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gln | Asp | Lys | Val | His | Pro | Ile | Lys | Ser | Glu | Phe | Ile | Arg | Ala | Lys | Tyr |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Gln | Met | Leu | Ala | Phe | Val | His | Lys | Leu | Pro | Cys | Arg | Asp | Asp | Asp | Gly |

2708

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     |     | 565 |     |     |     | 570 |     |     |     | 575 |     |     |     |
| Ser | Val | His | Val | Pro | Ala | Gly | Leu | Tyr | Arg | Ile | Arg | Lys | Gly | Val | Ser |
| 580 |     |     |     |     |     |     |     | 585 |     |     |     | 590 |     |     |     |
| Ala | Ser | Ala | Val | Pro | Phe | Thr | Pro | Ser | Ser | Pro | Leu | Leu | Ser | Cys | Ser |
| 595 |     |     |     | 600 |     |     |     |     |     |     |     | 605 |     |     |     |
| Gln | Glu | Gly | Ser | Arg | His | Thr | Ser | Lys | Leu | Ser | Arg | His | Gly | Ser | Gly |
| 610 |     |     |     | 615 |     |     |     |     |     |     |     | 620 |     |     |     |
| Ala | Asp | Ser | Asp | Tyr | Glu | Asn | Thr | Gln | Ser | Gly | Asp | Pro | Leu | Leu | Gly |
| 625 |     |     |     | 630 |     |     |     | 635 |     |     |     | 640 |     |     |     |
| Leu | Glu | Gly | Lys | Arg | Phe | Leu | Glu | Leu | Gly | Lys | Glu | Glu | Asp | Phe | His |
| 645 |     |     |     |     |     |     |     | 650 |     |     |     | 655 |     |     |     |
| Pro | Glu | Leu | Glu | Ser | Leu | Asp | Gly | Asp | Leu | Asp | Pro | Gly | Leu | Pro | Ser |
| 660 |     |     |     |     |     |     |     | 665 |     |     |     | 670 |     |     |     |
| Thr | Glu | Asp | Val | Ile | Leu | Lys | Thr | Glu | Gln | Val | Thr | Lys | Asn | Ile | Gln |
| 675 |     |     |     | 680 |     |     |     |     |     |     |     | 685 |     |     |     |
| Glu | Leu | Leu | Arg | Ala | Ala | Gln | Glu | Phe | Lys | His | Asp | Ser | Phe | Val | Pro |
| 690 |     |     |     | 695 |     |     |     | 700 |     |     |     |     |     |     |     |
| Cys | Ser | Glu | Lys | Ile | His | Leu | Ala | Val | Thr | Glu | Met | Ala | Ser | Leu | Phe |
| 705 |     |     |     | 710 |     |     |     | 715 |     |     |     | 720 |     |     |     |
| Pro | Lys | Arg | Pro | Ala | Leu | Glu | Pro | Val | Arg | Ser | Ser | Leu | Arg | Leu | Leu |
| 725 |     |     |     |     |     |     |     | 730 |     |     |     | 735 |     |     |     |
| Asn | Ala | Ser | Ala | Tyr | Arg | Leu | Gln | Ser | Glu | Cys | Arg | Lys | Thr | Val | Pro |
| 740 |     |     |     | 745 |     |     |     |     |     |     |     | 750 |     |     |     |
| Pro | Glu | Pro | Gly | Ala | Pro | Val | Asp | Phe | Gln | Leu | Leu | Thr | Gln | Gln | Val |
| 755 |     |     |     | 760 |     |     |     | 765 |     |     |     |     |     |     |     |
| Ile | Gln | Cys | Ala | Tyr | Asp | Ile | Ala | Lys | Ala | Ala | Lys | Gln | Leu | Val | Thr |
| 770 |     |     |     | 775 |     |     |     | 780 |     |     |     |     |     |     |     |
| Ile | Thr | Thr | Arg | Glu | Lys | Lys | Gln |     |     |     |     |     |     |     |     |
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<212> DNA
<213> Homo sapiens
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<210> 3548

<211> 346

<212> PRT

<213> Homo sapiens

<400> 3548

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Ser | Gln | Lys | Ile | Val | Tyr | Ile | Cys | Cys | Gly | Glu | Asp | His | Thr | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Leu | Thr | Lys | Glu | Gly | Gly | Val | Phe | Thr | Phe | Gly | Ala | Gly | Gly | Tyr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Gln | Leu | Gly | His | Asn | Ser | Thr | Ser | His | Glu | Ile | Asn | Pro | Arg | Lys |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Val | Phe | Glu | Leu | Met | Gly | Ser | Ile | Val | Thr | Glu | Ile | Ala | Cys | Gly | Arg |
|     | 50  |     |     |     | 55  |     |     |     |     |     | 60  |     |     |     |     |
| Gln | His | Thr | Ser | Ala | Phe | Val | Pro | Ser | Ser | Gly | Arg | Ile | Tyr | Ser | Phe |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Gly | Leu | Gly | Gly | Asn | Gly | Gln | Leu | Gly | Thr | Gly | Ser | Thr | Ser | Asn | Arg |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Lys | Ser | Pro | Phe | Thr | Val | Lys | Gly | Asn | Trp | Tyr | Pro | Tyr | Asn | Gly | Gln |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Cys | Leu | Pro | Asp | Ile | Asp | Ser | Glu | Glu | Tyr | Phe | Cys | Val | Lys | Arg | Ile |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Phe | Ser | Gly | Gly | Asp | Gln | Ser | Phe | Ser | His | Tyr | Ser | Ser | Pro | Gln | Asn |
|     |     | 130 |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |
| Cys | Gly | Pro | Pro | Asp | Asp | Phe | Arg | Cys | Pro | Asn | Pro | Thr | Lys | Gln | Ile |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Trp | Thr | Val | Asn | Glu | Ala | Leu | Ile | Gln | Lys | Trp | Leu | Ser | Tyr | Pro | Ser |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Gly | Arg | Phe | Pro | Val | Glu | Ile | Ala | Asn | Glu | Ile | Asp | Gly | Thr | Phe | Ser |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ser | Ser | Gly | Cys | Leu | Asn | Gly | Ser | Phe | Leu | Ala | Val | Ser | Asn | Asp | Asp |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| His | Tyr | Arg | Thr | Gly | Thr | Arg | Phe | Ser | Gly | Val | Asp | Met | Asn | Ala | Ala |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Arg | Leu | Leu | Phe | His | Lys | Leu | Ile | Gln | Pro | Asp | His | Pro | Gln | Ile | Ser |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 225 |     | 230 |     | 235 |     | 240 |     |     |     |     |     |     |     |     |     |
| Gln | Gln | Val | Ala | Ala | Ser | Leu | Glu | Lys | Asn | Leu | Ile | Pro | Lys | Leu | Thr |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Ser | Ser | Leu | Pro | Asp | Val | Glu | Ala | Leu | Arg | Phe | Tyr | Leu | Thr | Leu | Pro |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     | 270 |     |     |     |
| Glu | Cys | Pro | Leu | Met | Ser | Asp | Ser | Asn | Asn | Phe | Ile | Thr | Ile | Ala | Ile |
|     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |     |
| Pro | Phe | Gly | Thr | Ala | Leu | Val | Asn | Leu | Glu | Lys | Ala | Pro | Leu | Lys | Val |
|     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |     |
| Leu | Glu | Asn | Trp | Trp | Ser | Val | Leu | Glu | Pro | Pro | Leu | Phe | Leu | Lys | Ile |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |     |
| Val | Glu | Leu | Phe | Lys | Glu | Val | Val | Val | His | Leu | Leu | Lys | Leu | Tyr | Lys |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |     |
| Ile | Gly | Ile | Pro | Pro | Ser | Glu | Arg | Ile | Ile |     |     |     |     |     |     |
|     |     | 340 |     |     |     |     | 345 |     |     |     |     |     |     |     |     |

&lt;210&gt; 3549

&lt;211&gt; 2542

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3549

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960

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 100 105 110  
 Arg Ile Arg Ile Ile Arg Glu Arg Glu Glu Arg Glu Arg Leu Gln Arg  
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 145 150 155 160  
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 165 170 175  
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 180 185 190  
 Lys Arg Pro Arg Asp Val Asp His Arg Arg Asp Asp Pro Tyr Trp Ser  
 195 200 205  
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 210 215 220  
 Ser Asp Tyr Ser Arg Gln Asn Arg Phe Asn Asp Phe Asp His Arg  
 225 230 235 240  
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 245 250 255  
 Glu Arg Arg Asp Arg Phe Val Gly Gln Ser Glu Gly Lys Lys Ala Arg  
 260 265 270  
 Pro Thr Ala Arg Arg Glu Asp Pro Ser Phe Glu Arg Tyr Pro Lys Asn  
 275 280 285  
 Phe Ser Asp Ser Arg Arg Asn Glu Pro Pro Pro Pro Arg Asn Glu Leu  
 290 295 300  
 Arg Glu Ser Asp Arg Arg Glu Val Arg Gly Glu Arg Asp Glu Arg Arg  
 305 310 315 320  
 Thr Val Ile Ile His Asp Arg Pro Asp Ile Thr His Pro Arg His Pro  
 325 330 335  
 Arg Glu Ala Gly Pro Asn Pro Ser Arg Pro Thr Ser Trp Lys Ser Asp  
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 Gly Ser Met Ser Thr Asp Lys Arg Glu Thr Arg Val Glu Arg Pro Glu  
 355 360 365  
 Arg Ser Gly Arg Glu Val Ser Gly His Ser Val Arg Gly Ala Pro Pro

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      405      410      415
Arg His Val Val Glu Arg His Gly Arg Asp Thr Ser Gly Pro Arg Lys
      420      425      430
Glu Trp His Gly Pro Pro Ser Gln Gly Pro Ser Tyr His Asp Thr Arg
      435      440      445
Arg Met Gly Asp Gly Arg Ala Gly Ala Gly Met Ile Thr Gln His Ser
      450      455      460
Ser Asn Ala Ser Pro Ile Asn Arg Ile Val Gln Ile Ser Gly Asn Ser
465      470      475      480
Met Pro Arg Gly Ser Gly Ser Gly Phe Lys Pro Phe Lys Gly Gly Pro
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Pro Arg Arg Phe
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&lt;210&gt; 3551

&lt;211&gt; 545

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3551

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545

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&lt;210&gt; 3552

&lt;211&gt; 55

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3552

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Pro His Cys Leu Ser Thr Gly Ser Gln Glu Ser Asp Ser Ser Gln Ser
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|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 20  |     | 25  |     | 30  |     |     |     |     |     |     |     |     |     |     |
| Glu | Glu | Thr | Leu | Arg | Gln | Arg | Leu | Glu | Glu | Leu | Lys | Lys | Leu | Cys | Leu |
|     | 35  |     | 40  |     | 45  |     |     |     |     |     |     |     |     |     |     |
| Arg | Glu | Ala | Val | Ser | Leu | Ser |     |     |     |     |     |     |     |     |     |
|     | 50  |     | 55  |     |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 3553

&lt;211&gt; 1412

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3553

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1260

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<211> 419

<212> PRT

<213> Homo sapiens

<400> 3554

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| Tyr | Thr | Val | Thr | Met | Asp | Val | His | Ser | Arg | Tyr | Arg | Thr | Glu | Ala | His |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gln | Asp | Val | Val | Gly | Arg | Phe | Asn | Glu | Arg | Phe | Ile | Leu | Ser | Leu | Ala |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Cys | Lys | Lys | Cys | Leu | Val | Ile | Asp | Asp | Gln | Leu | Asn | Ile | Leu | Pro |
|     | 35  |     |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ile | Ser | Ser | His | Val | Ala | Thr | Met | Glu | Ala | Leu | Pro | Pro | Gln | Thr | Pro |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asp | Glu | Ser | Leu | Gly | Pro | Ser | Asp | Leu | Glu | Leu | Arg | Glu | Leu | Lys | Glu |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Ser | Leu | Gln | Asp | Thr | Gln | Pro | Val | Gly | Val | Leu | Val | Asp | Cys | Cys | Lys |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Thr | Leu | Asp | Gln | Ala | Lys | Ala | Val | Leu | Lys | Phe | Ile | Glu | Gly | Ile | Ser |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Glu | Lys | Thr | Leu | Arg | Ser | Thr | Val | Ala | Leu | Thr | Ala | Ala | Arg | Gly | Arg |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Gly | Lys | Ser | Ala | Ala | Leu | Gly | Leu | Ala | Ile | Ala | Gly | Ala | Val | Ala | Phe |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gly | Tyr | Ser | Asn | Ile | Phe | Val | Thr | Ser | Pro | Ser | Pro | Asp | Asn | Leu | His |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Thr | Leu | Phe | Glu | Phe | Val | Phe | Lys | Gly | Phe | Asp | Ala | Leu | Gln | Tyr | Gln |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Glu | His | Leu | Asp | Tyr | Glu | Ile | Ile | Gln | Ser | Leu | Asn | Pro | Glu | Phe | Asn |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Lys | Ala | Val | Ile | Ile | Val | Asn | Val | Phe | Arg | Glu | His | Arg | Gln | Thr | Ile |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Gln | Tyr | Ile | His | Pro | Ala | Asp | Ala | Val | Lys | Leu | Gly | Gln | Ala | Glu | Leu |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Val | Val | Ile | Asp | Glu | Ala | Ala | Ala | Ile | Pro | Leu | Pro | Leu | Val | Lys | Ser |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Leu | Leu | Gly | Pro | Tyr | Leu | Val | Phe | Met | Ala | Ser | Thr | Ile | Asn | Gly | Tyr |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Glu | Gly | Thr | Gly | Arg | Ser | Leu | Ser | Leu | Lys | Leu | Ile | Gln | Gln | Leu | Arg |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Gln | Gln | Ser | Ala | Gln | Ser | Gln | Val | Ser | Thr | Thr | Ala | Glu | Asn | Lys | Thr |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Thr | Thr | Thr | Ala | Arg | Leu | Ala | Ser | Ala | Arg | Thr | Leu | His | Glu | Val | Ser |
|     |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Leu | Gln | Glu | Ser | Ile | Arg | Tyr | Ala | Pro | Gly | Asp | Ala | Val | Glu | Lys | Trp |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |     |
| Leu | Asn | Asp | Leu | Leu | Cys | Leu | Asp | Cys | Leu | Asn | Ile | Thr | Arg | Ile | Val |

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<400> 3555
nngccggccg cgccccgggct gggacgtccg agcggggaaga tgttttccgc cctgaagaag
60
ctggtgggggt cggaccaggc cccggggccgg gacaagaaca tccccgccgg gctgcagtcc
120
atgaaccagg cgttgcagag gcgcttcgcc aaggggggtgc agtacaacat gaagatagtg
180
atccgggggag acaggaacac gggcaagaca gcgctgtggc accgcctgca gggccgggccg
240
ttcgtggagg agtacatccc cacacaggag atccaggcca ccagcatcca ctggagctac
300
aagaccacgg atgacatcgt gaagggtgaa gtctgggatg tagtagacaa aggaaaatgc
360
aaaaagcgag gcgacggctt aaagatggag aacgaccccc aggaggcgga gtctgaaatg
420
gccctggatg ctgagttcct ggacgtgtac aagaactgca acggggtggt catgatgttc
480
gacattacca agcagtggac cttcaattac attctccggg agcttccaaa agtgcccacc
540
cacgtgccag tgtgcgtgct ggggaactac cgggacatgg gcgagcaccg agtcatcnnc
600
tgccggacgn acgtgcgtga cttcatcgac aacctggaca gacctccagg ttcttcctac
660
ttccgctatg ctgagtcttc catgaagaac agcttcggcc taaagtacct tcataagttc
720
ttcaatatcc catttttgca gcttcagagg gagacgtgt tgcggcagct ggagacgaac
780
cagctggaca tggacgccac gctggaggag ctgtcgggtgc agcaggagac ggaggaccag
840
aactacggca tcttctctga gatgatggag gctcgcagcc gtggccatgc gtccccactg
900
gcggccaacg ggcagagccc atccccgggc tcccagtcac cagtggtgcc tgcaggcgct
960
gtgtccacgg ggagctccag ccccggcaca gccagcccc cccacagct gcccctcaat
1020

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ggttgcccac ccatcctc  
1038

<210> 3556

<211> 333

<212> PRT

<213> Homo sapiens

<400> 3556

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Phe | Ser | Ala | Leu | Lys | Lys | Leu | Val | Gly | Ser | Asp | Gln | Ala | Pro | Gly |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Arg | Asp | Lys | Asn | Ile | Pro | Ala | Gly | Leu | Gln | Ser | Met | Asn | Gln | Ala | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gln | Arg | Arg | Phe | Ala | Lys | Gly | Val | Gln | Tyr | Asn | Met | Lys | Ile | Val | Ile |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Arg | Gly | Asp | Arg | Asn | Thr | Gly | Lys | Thr | Ala | Leu | Trp | His | Arg | Leu | Gln |
|     |     |     | 50  |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gly | Arg | Pro | Phe | Val | Glu | Glu | Tyr | Ile | Pro | Thr | Gln | Glu | Ile | Gln | Val |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Thr | Ser | Ile | His | Trp | Ser | Tyr | Lys | Thr | Thr | Asp | Asp | Ile | Val | Lys | Val |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Glu | Val | Trp | Asp | Val | Val | Asp | Lys | Gly | Lys | Cys | Lys | Lys | Arg | Gly | Asp |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gly | Leu | Lys | Met | Glu | Asn | Asp | Pro | Gln | Glu | Ala | Glu | Ser | Glu | Met | Ala |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Leu | Asp | Ala | Glu | Phe | Leu | Asp | Val | Tyr | Lys | Asn | Cys | Asn | Gly | Val | Val |
|     |     |     | 130 |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Met | Met | Phe | Asp | Ile | Thr | Lys | Gln | Trp | Thr | Phe | Asn | Tyr | Ile | Leu | Arg |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Glu | Leu | Pro | Lys | Val | Pro | Thr | His | Val | Pro | Val | Cys | Val | Leu | Gly | Asn |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Tyr | Arg | Asp | Met | Gly | Glu | His | Arg | Val | Ile | Xaa | Cys | Arg | Thr | Xaa | Val |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Arg | Asp | Phe | Ile | Asp | Asn | Leu | Asp | Arg | Pro | Pro | Gly | Ser | Ser | Tyr | Phe |
|     |     |     | 195 |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Arg | Tyr | Ala | Glu | Ser | Ser | Met | Lys | Asn | Ser | Phe | Gly | Leu | Lys | Tyr | Leu |
|     |     |     | 210 |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| His | Lys | Phe | Phe | Asn | Ile | Pro | Phe | Leu | Gln | Leu | Gln | Arg | Glu | Thr | Leu |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Leu | Arg | Gln | Leu | Glu | Thr | Asn | Gln | Leu | Asp | Met | Asp | Ala | Thr | Leu | Glu |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     | 255 |     |     |
| Glu | Leu | Ser | Val | Gln | Gln | Glu | Thr | Glu | Asp | Gln | Asn | Tyr | Gly | Ile | Phe |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Leu | Glu | Met | Met | Glu | Ala | Arg | Ser | Arg | Gly | His | Ala | Ser | Pro | Leu | Ala |
|     |     |     | 275 |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Ala | Asn | Gly | Gln | Ser | Pro | Ser | Pro | Gly | Ser | Gln | Ser | Pro | Val | Val | Pro |
|     |     |     | 290 |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Ala | Gly | Ala | Val | Ser | Thr | Gly | Ser | Ser | Ser | Pro | Gly | Thr | Ala | Gln | Pro |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Ala | Pro | Gln | Leu | Pro | Leu | Asn | Gly | Cys | Pro | Thr | Ile | Leu |     |     |     |
|     |     |     |     | 325 |     |     |     | 330 |     |     |     |     |     |     |     |

<210> 3557

<211> 486

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3557

tcagtgacaa ggaggacgtt tgggcacagc ggcattgcag tgcacacgtg gtagtgcattgt  
60  
ccggcattga tcaagtccat ctgggctatg gccataagcc aacaccagtt ctatctggac  
120  
agaaagcaga gtaagtccaa aatccatgca gcacgcagcc tgagtgcagat cgccatcgac  
180  
ctgaccgaga cggggacgct gaagacctcg aagctggcca acatgggtag caaggggaag  
240  
atcatcagcg gcacgcagcg cagcctgctg tcttcaggat ctggtgccag gagacactgc  
300  
attctactcc caggttctca ggaatcagat agctcgagct cggccaagaa ggacatgctg  
360  
gctgccttga agtccaggca ggaagctctg gaggaacccc tgcgtcagag gctggaggaa  
420  
ctgaagaagc tgtgtctccg agaagctgag ctacgggca agctgccagt agaatatccc  
480  
ctggat  
486

&lt;210&gt; 3558

&lt;211&gt; 162

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3558

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Val | Thr | Arg | Arg | Thr | Phe | Gly | His | Ser | Gly | Ile | Ala | Val | His | Thr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Trp | Tyr | Ala | Cys | Pro | Ala | Leu | Ile | Lys | Ser | Ile | Trp | Ala | Met | Ala | Ile |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Gln | His | Gln | Phe | Tyr | Leu | Asp | Arg | Lys | Gln | Ser | Lys | Ser | Lys | Ile |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| His | Ala | Ala | Arg | Ser | Leu | Ser | Glu | Ile | Ala | Ile | Asp | Leu | Thr | Glu | Thr |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gly | Thr | Leu | Lys | Thr | Ser | Lys | Leu | Ala | Asn | Met | Gly | Ser | Lys | Gly | Lys |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Ile | Ile | Ser | Gly | Ser | Ser | Gly | Ser | Leu | Leu | Ser | Ser | Gly | Ser | Gly | Ala |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Arg | Arg | His | Cys | Ile | Leu | Leu | Pro | Gly | Ser | Gln | Glu | Ser | Asp | Ser | Ser |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gln | Ser | Ala | Lys | Lys | Asp | Met | Leu | Ala | Ala | Leu | Lys | Ser | Arg | Gln | Glu |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |
| Ala | Leu | Glu | Glu | Thr | Leu | Arg | Gln | Arg | Leu | Glu | Glu | Leu | Lys | Lys | Leu |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Cys | Leu | Arg | Glu | Ala | Glu | Leu | Thr | Gly | Lys | Leu | Pro | Val | Glu | Tyr | Pro |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |
| Leu | Asp |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 3559

&lt;211&gt; 673

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3559

```

gaaggagcga gcgggggcgc gaggcgttta cctggaggca gcggtttggg cgcgagagc
60
ggcgcgggct ccccccgcacc tgcggccatg gatgaggagc gcgcctcta catcgccgg
120
gccggcgaag caggggctat cgagcgggtc ctgagggatt acagcgacaa gcatagggct
180
actttcfaat ttgaatcaac agatgaagat aaaagaaaga aactctgtga aggcataattt
240
aaagtcctta taaaggacat cccaacaaca tgtcaagtgt cctgcctgga agtactccgc
300
attctctcca gagacaaaaa ggtttttagtt cctgtgacaa ctaaggaaaa tatgcagata
360
ctgctgcgac tagccaagct aaatgagtta gatgattctt tggagaaagt atcagagttc
420
ccagttattg tggagtcatt aaaatgtctg tgtaatatag tgttcaacag tcagatggca
480
cagcagctca gcctggaact taatcttgct gcaaagctct gtaacctctt gagaaagtgc
540
aaggaccgga aatttatcaa tgacattaag tgctttgact tgcgcttgct cttccttctg
600
tcacttttgc acaccgacat caggtcacaa ttgcgctatg agctccaggg actaccgctg
660
ctaacgcaga tcg
673

```

&lt;210&gt; 3560

&lt;211&gt; 195

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3560

```

Met Asp Glu Glu Arg Ala Leu Tyr Ile Val Arg Ala Gly Glu Ala Gly
 1             5             10             15
Ala Ile Glu Arg Val Leu Arg Asp Tyr Ser Asp Lys His Arg Ala Thr
      20             25             30
Phe Lys Phe Glu Ser Thr Asp Glu Asp Lys Arg Lys Lys Leu Cys Glu
      35             40             45
Gly Ile Phe Lys Val Leu Ile Lys Asp Ile Pro Thr Thr Cys Gln Val
      50             55             60
Ser Cys Leu Glu Val Leu Arg Ile Leu Ser Arg Asp Lys Lys Val Leu
      65             70             75             80
Val Pro Val Thr Thr Lys Glu Asn Met Gln Ile Leu Leu Arg Leu Ala
      85             90             95
Lys Leu Asn Glu Leu Asp Asp Ser Leu Glu Lys Val Ser Glu Phe Pro
      100            105            110
Val Ile Val Glu Ser Leu Lys Cys Leu Cys Asn Ile Val Phe Asn Ser
      115            120            125
Gln Met Ala Gln Gln Leu Ser Leu Glu Leu Asn Leu Ala Ala Lys Leu
      130            135            140
Cys Asn Leu Leu Arg Lys Cys Lys Asp Arg Lys Phe Ile Asn Asp Ile

```

```

145          150          155          160
Lys Cys Phe Asp Leu Arg Leu Leu Phe Leu Leu Ser Leu Leu His Thr
          165          170          175
Asp Ile Arg Ser Gln Leu Arg Tyr Glu Leu Gln Gly Leu Pro Leu Leu
          180          185          190
Thr Gln Ile
          195

```

<210> 3561  
 <211> 523  
 <212> DNA  
 <213> Homo sapiens

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<400> 3561
acgcgtgcct gtaggcagac gaggggccag tgggcagagc agacatgaat gccccctgaa
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ggctcacaga gctgactcag aagggccatt gtcacacact ggtaagagct gattctgagg
120
ggagggcatg agacgcctat tgcagagctg ctcaccagaa ggtcacagga atttagaaga
180
gaagctccta cctgcccccg atcatgcacg tggccactga ggatgccaga cgaggtgatg
240
ctggtctcat agagaatgta cccgaaggac tgtccatttc cccattgac tggcaggttc
300
tccatgttga tgggcttttc agacttgatt ggctgcgtac agaagagatg gaggggtggg
360
caggctcagg aggagtgggg tcacagacag actctgcttg ggggctggca catgggggtg
420
aagcggaggt ttggtgggtg ttttctactt tgacttctca ttgcactaaa catacaactc
480
tccaggtga cggggaagag gagtggggca aaggggtgtg cac
523

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<210> 3562  
 <211> 106  
 <212> PRT  
 <213> Homo sapiens

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<400> 3562
Met His Val Ala Thr Glu Asp Ala Arg Arg Gly Asp Ala Gly Leu Ile
1      5      10      15
Glu Asn Val Pro Glu Gly Leu Ser Ile Ser Pro Ile Asp Trp Gln Val
20     25     30
Leu His Val Asp Gly Leu Phe Arg Leu Asp Trp Leu Arg Thr Glu Glu
35     40     45
Met Glu Gly Trp Ala Gly Ser Gly Gly Val Gly Ser Gln Thr Asp Ser
50     55     60
Ala Trp Gly Leu Ala His Gly Val Glu Ala Glu Val Trp Trp Val Phe
65     70     75     80
Ser Thr Leu Thr Ser His Cys Thr Lys His Thr Thr Leu Gln Gly Asp
85     90     95
Gly Glu Glu Glu Trp Gly Lys Gly Val Cys
100    105

```

&lt;210&gt; 3563

&lt;211&gt; 359

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3563

```

nnacgcgtag tcgaactgcc cgcgctcgag cgctccttg tggtcggtcc ccgtccgggt
60
cgaagccagg ggcgcgcgcc gatgtgagcc atgagcgcca cgtggacgct gtcgccggag
120
cccctgccgc cgtcgacggg gccccagtg ggcgcgggcc tggacgcgga gcagcgcacg
180
gtgttcgcct tcgtgctctg cctgctctg gtgctggtgc tttgatggt gcgctgcgtg
240
cgcctcctgc tcgacccta cagccgcag cccgcctcgt cctggaccga ccacaaggag
300
gcgctcgagc gcgggcagtt cgactacgc ttggtgtgag ggcgcggcg cccctagg
359

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&lt;210&gt; 3564

&lt;211&gt; 82

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3564

```

Met Ser Ala Thr Trp Thr Leu Ser Pro Glu Pro Leu Pro Pro Ser Thr
 1           5           10           15
Gly Pro Pro Val Gly Ala Gly Leu Asp Ala Glu Gln Arg Thr Val Phe
          20           25           30
Ala Phe Val Leu Cys Leu Leu Val Val Leu Val Leu Leu Met Val Arg
          35           40           45
Cys Val Arg Ile Leu Leu Asp Pro Tyr Ser Arg Met Pro Ala Ser Ser
          50           55           60
Trp Thr Asp His Lys Glu Ala Leu Glu Arg Gly Gln Phe Asp Tyr Ala
65           70           75           80
Leu Val

```

&lt;210&gt; 3565

&lt;211&gt; 580

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3565

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acgcgtcgtg ggtgggaaaa gggatgccag gacaccagaa gagcaatata aaacagctcc
60
cgtgagcagg cacaggagac cttccgcgcc gccggccggg cgaccccgca ggaagtagga
120
aggacgagcg cgcacttcaa gtcccagaag ccccgcttcc ctggagcccg cgccgtgccg
180
cgctacgccc gccgggagcc gggcagagcg gccaatgt cgcagcccaa gaaaagaaag
240
cttgagtcgg ggggcggcgc cgaaggaggg gaggggaactg aagaggaaga tggcgcgagg
300

```

cgggaggcgg ccctggagcg accccggacg actaagcggg aacgggacca gctgtactac  
 360  
 gagtgtact cggacgtttc ggtccacgag gagatgatcg cggaccgcgt ccgcaccgat  
 420  
 gcctaccgct gggtttccct tcggaactgg gcagcactgc gaggcaagac ggtactggac  
 480  
 gtgggcgcgg gcaccggcat tctgagcatc ttctgtgccc aggcgggggc cgggcgcgtg  
 540  
 tacgcggtag aggccagcgc catctggcaa caggcccggg  
 580

<210> 3566

<211> 193

<212> PRT

<213> Homo sapiens

<400> 3566

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Arg | Arg | Gly | Trp | Glu | Lys | Gly | Cys | Gln | Asp | Thr | Arg | Arg | Ala | Ile |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gln | Asn | Ser | Ser | Arg | Glu | Gln | Ala | Gln | Glu | Thr | Phe | Arg | Ala | Ala | Gly |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Arg | Ala | Thr | Pro | Gln | Glu | Val | Gly | Arg | Thr | Ser | Ala | His | Phe | Lys | Ser |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gln | Lys | Pro | Pro | Phe | Pro | Gly | Ala | Arg | Ala | Val | Pro | Arg | Tyr | Ala | Arg |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Arg | Glu | Pro | Gly | Arg | Ala | Ala | Lys | Met | Ser | Gln | Pro | Lys | Lys | Arg | Lys |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Leu | Glu | Ser | Gly | Gly | Gly | Ala | Glu | Gly | Gly | Glu | Gly | Thr | Glu | Glu | Glu |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Asp | Gly | Ala | Glu | Arg | Glu | Ala | Ala | Leu | Glu | Arg | Pro | Arg | Thr | Thr | Lys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Arg | Glu | Arg | Asp | Gln | Leu | Tyr | Tyr | Glu | Cys | Tyr | Ser | Asp | Val | Ser | Val |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| His | Glu | Glu | Met | Ile | Ala | Asp | Arg | Val | Arg | Thr | Asp | Ala | Tyr | Arg | Trp |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Val | Ser | Leu | Arg | Asn | Trp | Ala | Ala | Leu | Arg | Gly | Lys | Thr | Val | Leu | Asp |
| 145 |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     | 160 |     |
| Val | Gly | Ala | Gly | Thr | Gly | Ile | Leu | Ser | Ile | Phe | Cys | Ala | Gln | Ala | Gly |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Ala | Arg | Arg | Val | Tyr | Ala | Val | Glu | Ala | Ser | Ala | Ile | Trp | Gln | Gln | Ala |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |

Arg

<210> 3567

<211> 2811

<212> DNA

<213> Homo sapiens

<400> 3567

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 60  
 ccttgacgaa gagccagaag gaagctgaac tgaccctga actggagaaa cagaaggaaa  
 120

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| Pro | Arg | Leu | Pro | Cys | Arg | Ser | Cys | Arg | Ser | Gly | Gly | Thr | Arg | Ser | Ser |
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| Ala | Gly | Trp | Arg | Arg | Arg | Phe | Leu | His | Leu | Lys | Lys | Ala | Ala | Ile | Val |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
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|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Leu | Leu | Ala | Glu | Lys | Arg | Glu | Gln | Glu | Glu | Lys | Lys | Lys | Gln | Glu | Glu |
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| Glu | Glu | Lys | Lys | Lys | Arg | Glu | Glu | Glu | Glu | Arg | Glu | Arg | Glu | Arg | Glu |
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| Arg | Arg | Glu | Ala | Glu | Leu | Arg | Ala | Gln | Gln | Glu | Glu | Glu | Thr | Arg | Lys |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
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| Gln | Gln | Glu | Leu | Glu | Ala | Leu | Gln | Lys | Ser | Gln | Lys | Glu | Ala | Glu | Leu |
| 100 |     |     |     | 105 |     |     |     | 110 |     |     |     |     |     |     |     |
| Thr | Arg | Glu | Leu | Glu | Lys | Gln | Lys | Glu | Asn | Lys | Gln | Val | Glu | Glu | Ile |
| 115 |     |     |     | 120 |     |     |     | 125 |     |     |     |     |     |     |     |
| Leu | Arg | Leu | Glu | Lys | Glu | Ile | Glu | Asp | Leu | Gln | Arg | Met | Lys | Glu | Gln |
| 130 |     |     |     | 135 |     |     |     | 140 |     |     |     |     |     |     |     |
| Gln | Glu | Leu | Ser | Leu | Thr | Glu | Ala | Ser | Leu | Gln | Lys | Leu | Gln | Glu | Arg |
| 145 |     |     |     | 150 |     |     |     | 155 |     |     |     | 160 |     |     |     |
| Arg | Asp | Gln | Glu | Leu | Arg | Arg | Leu | Glu | Glu | Glu | Ala | Cys | Arg | Ala | Ala |
| 165 |     |     |     | 170 |     |     |     | 175 |     |     |     |     |     |     |     |
| Gln | Glu | Phe | Leu | Glu | Ser | Leu | Asn | Phe | Asp | Glu | Ile | Asp | Glu | Cys | Val |
| 180 |     |     |     | 185 |     |     |     | 190 |     |     |     |     |     |     |     |
| Arg | Asn | Ile | Glu | Arg | Ser | Leu | Ser | Gly | Gly | Ser | Glu | Phe | Ser | Ser | Glu |
| 195 |     |     |     | 200 |     |     |     | 205 |     |     |     |     |     |     |     |
| Leu | Ala | Glu | Ser | Ala | Cys | Glu | Glu | Lys | Pro | Asn | Phe | Asn | Phe | Ser | Gln |
| 210 |     |     |     | 215 |     |     |     | 220 |     |     |     |     |     |     |     |
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| Ala | Phe | Lys | Asp | Ser | Pro | Asn | Pro | Ser | Glu | His | Gly | His | Ser | Asp | Gln |
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| Pro | Ser | Pro | Asp | Gly | Asp | Tyr | Asp | Tyr | Asp | Gln | Asp | Asp | Tyr | Glu | Asp |
| 325 |     |     |     | 330 |     |     |     | 335 |     |     |     |     |     |     |     |
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| Asp Ser Val Cys Ala Ser Asp Ser Pro Asp Arg Pro Asn Ser Phe Val |                                     |     |
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| Val Pro Pro Asp Glu Lys Ile Phe Lys Glu Thr Gly Tyr Trp Asn Val |                                     |     |
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| Thr Val Tyr Gly Arg Lys His Cys Tyr Arg Leu Tyr Thr Lys Leu Leu |                                     |     |
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| Lys Ala Pro Ile Asp Thr Pro Thr Gln Gln Leu Ile Gln Asp Ile Lys |                                     |     |
| 740   | 745                                 | 750 |
| Glu Asn Cys Leu Asn Ser Asp Val Val Glu Gln Ile Tyr Lys Arg Asn |                                     |     |
| 755   | 760                                 | 765 |
| Pro Ile Leu Arg Tyr Thr His His Pro Leu His Ser Pro Leu Leu Pro |                                     |     |
| 770   | 775                                 | 780 |
| Leu Pro Tyr Gly Asp Ile Asn Leu Asn Leu Lys Asp Lys Gly Tyr     |                                     |     |
| 785   | 790                                 | 795 |
| Thr Thr Leu Gln Asp Glu Ala Ile Lys Ile Phe Asn Ser Leu Gln Gln |                                     |     |
| 805   | 810                                 | 815 |
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| Thr Gly His Asp Leu Arg Pro Leu Arg Asp Glu Leu Tyr Cys Gln Leu |                                     |     |
| 835   | 840                                 | 845 |
| Ile Lys Gln Thr Asn Lys Val Pro His Pro Gly Ser Val Gly Asn Leu |                                     |     |
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| Tyr Ser Trp Gln Ile   |                                     |     |
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| Ser | Glu | Ser | Pro | Pro | Ser | Thr | Leu | Asn | Ala | Gln | Met | Leu | Asn | Gly | Met |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ile | Lys | Gln | Glu | Pro | Gly | Thr | Val | Thr | Ala | Leu | Pro | Leu | His | Pro | Thr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Arg | Ala | Pro | Ser | Pro | Pro | Trp | Pro | Pro | Gln | Gly | Pro | Leu | Ser | Pro | Gly |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Pro | Gly | Ser | Leu | Pro | Leu | Ser | Ile | Ala | Arg | Val | Gln | Thr | Pro | Pro | Trp |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| His | Pro | Pro | Gly | Ala | Pro | Ser | Pro | Gly | Leu | Leu | Gln | Asp | Ser | Asp | Ser |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Leu | Ser | Gly | Ser | Tyr | Leu | Asp | Pro | Asn | Tyr | Gln | Ser | Ile | Lys | Trp | Gln |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Pro | His | Gln | Gln | Asn | Lys | Trp | Ala | Thr | Leu | Tyr | Asp | Ala | Asn | Tyr | Lys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Glu | Leu | Pro | Met | Leu | Thr | Tyr | Arg | Val | Asp | Ala | Asp | Lys | Gly | Phe | Asn |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Phe | Ser | Val | Gly | Asp | Asp | Ala | Phe | Val | Cys | Gln | Lys | Lys | Asn | His | Phe |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gln | Val | Thr | Val | Tyr | Ile | Gly | Met | Leu | Gly | Glu | Pro | Lys | Tyr | Val | Lys |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Thr | Pro | Glu | Gly | Leu | Lys | Pro | Leu | Asp | Cys | Phe | Tyr | Leu | Lys | Leu | His |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Gly | Val | Lys | Leu | Glu | Ala | Leu | Asn | Gln | Ser | Ile | Asn | Ile | Glu | Gln | Ser |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Gln | Ser | Asp | Arg | Ser | Lys | Arg | Pro | Phe | Asn | Pro | Val | Thr | Val | Asn | Leu |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |
| Pro | Pro | Glu | Gln | Val | Thr | Lys | Val | Thr | Val | Gly | Arg | Leu | His | Phe | Ser |
|     |     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Glu | Thr | Thr | Ala | Asn | Asn | Met | Arg | Lys | Lys | Gly | Lys | Pro | Asn | Pro | Asp |
| 225 |     |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     | 240 |
| Gln | Arg | Tyr | Phe | Met | Leu | Val | Val | Ala | Leu | Gln | Ala | His | Ala | Gln | Asn |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Gln | Asn | Tyr | Thr | Leu | Ala | Ala | Gln | Ile | Ser | Glu | Arg | Ile | Ile | Val | Arg |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |
| Ala | Ser | Asn | Pro | Gly | Gln | Phe | Glu | Ser | Asp | Ser | Asp | Val | Leu | Trp | Gln |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |
| Arg | Ala | Gln | Val | Pro | Asp | Thr | Val | Phe | His | His | Gly | Arg | Val | Gly | Ile |
|     |     | 290 |     |     |     |     | 295 |     |     |     | 300 |     |     |     |     |
| Asn | Thr | Asp | Arg | Pro | Asp | Glu | Ala | Leu | Val | Val | His | Gly | Asn | Val | Lys |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Val | Met | Gly | Ser | Leu | Met | His | Pro | Ser | Asp | Leu | Arg | Ala | Lys | Glu | His |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Val | Gln | Glu | Val | Asp | Thr | Thr | Glu | Gln | Leu | Lys | Arg | Ile | Ser | Arg | Met |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 340 |     |     |     | 345 |     |     |     | 350 |     |     |     |     |     |     |     |  |
| Arg | Leu | Val | His | Tyr | Arg | Tyr | Lys | Pro | Glu | Phe | Ala | Ala | Ser | Ala | Gly |  |
| 355 |     |     |     | 360 |     |     |     | 365 |     |     |     |     |     |     |     |  |
| Ile | Glu | Ala | Thr | Ala | Pro | Glu | Thr | Gly | Val | Ile | Ala | Gln | Glu | Val | Lys |  |
| 370 |     |     |     | 375 |     |     |     | 380 |     |     |     |     |     |     |     |  |
| Glu | Ile | Leu | Pro | Glu | Ala | Val | Lys | Asp | Thr | Gly | Asp | Met | Val | Phe | Ala |  |
| 385 |     |     |     |     | 390 |     |     |     | 395 |     |     |     | 400 |     |     |  |
| Asn | Gly | Lys | Thr | Ile | Glu | Asn | Phe | Leu | Val | Val | Asn | Lys | Glu | Arg | Ile |  |
| 405 |     |     |     | 410 |     |     |     | 415 |     |     |     |     |     |     |     |  |
| Phe | Met | Glu | Asn | Val | Gly | Ala | Val | Lys | Glu | Leu | Cys | Lys | Leu | Thr | Asp |  |
| 420 |     |     |     | 425 |     |     |     | 430 |     |     |     |     |     |     |     |  |
| Asn | Leu | Glu | Thr | Arg | Ile | Asp | Glu | Leu | Glu | Arg | Trp | Ser | His | Lys | Leu |  |
| 435 |     |     |     | 440 |     |     |     | 445 |     |     |     |     |     |     |     |  |
| Ala | Lys | Leu | Arg | Arg | Leu | Asp | Ser | Leu | Lys | Ser | Thr | Gly | Ser | Ser | Gly |  |
| 450 |     |     |     | 455 |     |     |     | 460 |     |     |     |     |     |     |     |  |
| Ala | Phe | Ser | His | Ala | Gly | Ser | Gln | Phe | Ser | Arg | Ala | Gly | Ser | Val | Pro |  |
| 465 |     |     |     |     | 470 |     |     |     | 475 |     |     |     | 480 |     |     |  |
| His | Lys | Lys | Arg | Pro | Pro | Lys | Val | Ala | Ser | Lys | Ser | Ser | Ser | Val | Val |  |
| 485 |     |     |     | 490 |     |     |     | 495 |     |     |     |     |     |     |     |  |
| Pro | Asp | Gln | Ala | Cys | Ile | Ser | Gln | Arg | Phe | Leu | Gln | Gly | Thr | Ile | Ile |  |
| 500 |     |     |     | 505 |     |     |     | 510 |     |     |     |     |     |     |     |  |
| Ala | Leu | Val | Val | Val | Met | Ala | Phe | Ser | Val | Val | Ser | Met | Ser | Thr | Leu |  |
| 515 |     |     |     | 520 |     |     |     | 525 |     |     |     |     |     |     |     |  |
| Tyr | Val | Leu | Ser | Leu | Arg | Thr | Glu | Glu | Asp | Leu | Val | Asp | Thr | Asp | Gly |  |
| 530 |     |     |     |     | 535 |     |     |     | 540 |     |     |     |     |     |     |  |
| Ser | Phe | Ala | Val | Ser | Thr | Ser | Cys | Leu | Leu | Ala | Leu | Leu | Arg | Pro | Gln |  |
| 545 |     |     |     |     | 550 |     |     |     | 555 |     |     |     | 560 |     |     |  |
| Pro | Pro | Gly | Gly | Ser | Glu | Ala | Leu | Cys | Pro | Trp | Ser | Ser | Gln | Ser | Phe |  |
| 565 |     |     |     | 570 |     |     |     | 575 |     |     |     |     |     |     |     |  |
| Gly | Thr | Thr | Gln | Leu | Arg | Gln | Ser | Pro | Leu | Thr | Thr | Gly | Leu | Pro | Gly |  |
| 580 |     |     |     | 585 |     |     |     | 590 |     |     |     |     |     |     |     |  |
| Ile | Gln | Pro | Ser | Leu | Leu | Leu | Val | Thr | Thr | Ser | Leu | Thr | Ser | Ser | Ala |  |
| 595 |     |     |     | 600 |     |     |     | 605 |     |     |     |     |     |     |     |  |
| Pro | Gly | Ser | Ala | Val | Arg | Thr | Leu | Asp | Met | Cys | Ser | Ser | His | Pro | Cys |  |
| 610 |     |     |     | 615 |     |     |     | 620 |     |     |     |     |     |     |     |  |
| Pro | Val | Ile | Cys | Cys | Ser | Ser | Pro | Thr | Thr | Asn | Pro | Thr | Thr | Gly | Pro |  |
| 625 |     |     |     |     | 630 |     |     |     | 635 |     |     |     | 640 |     |     |  |
| Ser | Leu | Gly | Pro | Ser | Phe | Asn | Pro | Gly | His | Val | Leu | Ser | Pro | Ser | Pro |  |
| 645 |     |     |     | 650 |     |     |     | 655 |     |     |     |     |     |     |     |  |
| Ser | Pro | Ser | Thr | Asn | Arg | Ser | Gly | Pro | Ser | Gln | Met | Ala | Leu | Leu | Pro |  |
| 660 |     |     |     | 665 |     |     |     | 670 |     |     |     |     |     |     |     |  |
| Val | Thr | Asn | Ile | Arg | Ala | Lys | Ser | Trp | Gly | Leu | Ser | Val | Asn | Gly | Ile |  |
| 675 |     |     |     | 680 |     |     |     | 685 |     |     |     |     |     |     |     |  |
| Asp | His | Ser | Lys | His | His | Lys | Ser | Leu | Glu | Pro | Leu | Ala | Ser | Pro | Ala |  |
| 690 |     |     |     |     | 695 |     |     |     | 700 |     |     |     |     |     |     |  |
| Val | Pro | Phe | Pro | Gly | Gly | Gln | Gly | Lys | Ala | Lys | Asn | Ser | Pro | Ser | Leu |  |
| 705 |     |     |     |     | 710 |     |     |     | 715 |     |     |     | 720 |     |     |  |
| Gly | Phe | His | Gly | Arg | Ala | Arg | Arg | Gly | Ala | Leu | Gln | Ser | Ser | Val | Gly |  |
| 725 |     |     |     | 730 |     |     |     | 735 |     |     |     |     |     |     |     |  |
| Pro | Ala | Glu | Pro | Thr | Trp | Ala | Gln | Gly | Gln | Ser | Ala | Ser | Leu | Leu | Ala |  |
| 740 |     |     |     | 745 |     |     |     | 750 |     |     |     |     |     |     |     |  |
| Glu | Pro | Val | Pro | Ser | Leu | Thr | Ser | Ile | Gln | Val | Leu | Glu | Asn | Ser | Met |  |
| 755 |     |     |     | 760 |     |     |     | 765 |     |     |     |     |     |     |     |  |
| Ser | Ile | Thr | Ser | Gln | Tyr | Cys | Ala | Pro | Gly | Asp | Ala | Cys | Arg | Pro | Gly |  |

|   |     |     |     |     |
|---|-----|-----|-----|-----|
| 770   |     | 775 |     | 780 |
| Asn Phe Thr Tyr His Ile Pro Val Ser Ser Gly Thr Pro Leu His Leu |     |     |     |     |
| 785   |     | 790 |     | 800 |
| Ser Leu Thr Leu Gln Met Asn Ser Ser Ser Pro Val Ser Val Val Leu |     |     |     |     |
|   | 805 |     | 810 | 815 |
| Cys Ser Leu Arg Ser Lys Glu Glu Pro Cys Glu Glu Gly Ser Leu Pro |     |     |     |     |
|   | 820 |     | 825 | 830 |
| Gln Ser Leu His Thr His Gln Asp Thr Gln Gly Thr Ser His Arg Trp |     |     |     |     |
|   | 835 |     | 840 | 845 |
| Pro Ile Thr Ile Leu Ser Phe Arg Glu Phe Thr Tyr His Phe Arg Val |     |     |     |     |
|   | 850 |     | 855 | 860 |
| Ala Leu Leu Gly Gln Ala Asn Cys Ser Ser Glu Ala Leu Ala Gln Pro |     |     |     |     |
| 865   |     | 870 |     | 880 |
| Ala Thr Asp Tyr His Phe His Phe Tyr Arg Leu Cys Asp             |     |     |     |     |
|   | 885 |     | 890 |     |

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&lt;211&gt; 528

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3571

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&lt;210&gt; 3572

&lt;211&gt; 110

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3572

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| His Ala Phe Leu Phe Thr Gly Gly Val Val Ser Ala Trp Asp Gln Val |    |    |
|   | 20 | 30 |
| Ser Tyr Phe Leu Phe Val Ile Phe Thr Ala Tyr Ala Met Leu Pro Leu |    |    |
|   | 35 | 45 |
| Gly Met Arg Asp Ala Ala Val Ala Gly Leu Ala Ser Ser Leu Ser His |    |    |

|             |         |         |         |         |                     |
|-------------|---------|---------|---------|---------|---------------------|
| 50          |         | 55      |         | 60      |                     |
| Leu Leu Val | Leu Gly | Leu Tyr | Leu Gly | Pro Gln | Pro Asp Ser Arg Pro |
| 65          |         | 70      |         | 75      | 80                  |
| Ala Leu Leu | Pro Gln | Val Ser | Thr Gln | Val Ala | Gln Ala Ala Leu Arg |
|             | 85      |         | 90      |         | 95                  |
| Thr Ala Leu | Pro Arg | Ala Ser | Arg Leu | Leu Leu | Gly Gly Cys         |
|             | 100     |         | 105     |         | 110                 |

&lt;210&gt; 3573

&lt;211&gt; 1236

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3573

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<211> 361

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<213> Homo sapiens

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| Pro | Gln | Ile | Lys | Gly | Ala | Val | Ser | Phe | Phe | Pro | Ala | Thr | Ser | Gly | Gln |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Asp | His | Pro | Pro | Cys | Leu | Leu | Pro | Lys | Ala | Gln | Pro | Ser | Ala | Pro | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ile | Asn | Pro | Ser | His | Thr | His | Ser | Pro | Ile | Phe | Ser | Ile | His | Ser | Gly |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Thr | Cys | Val | Phe | Asn | Lys | Pro | Gly | Gly | His | Thr | Ala | Ser | His | Thr | His |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Thr | Leu | Thr | Ala | Thr | Asn | Pro | Arg | Ser | His | Ala | His | Ala | Asp | Ala | Pro |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Cys | Gly | Thr | Cys | Thr | His | Asn | His | Thr | Cys | Val | Gln | Ser | Gly | Arg | His |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Thr | His | Thr | Cys | Ile | Glu | Ala | Ser | Leu | Trp | Thr | Pro | Ser | Ala | Ser | His |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Arg | Gly | Gly | Ser | Pro | Ala | Val | Phe | Asp | Trp | Phe | Phe | Glu | Ala | Ala | Cys |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Pro | Ala | Ser | Val | Gln | Glu | Asp | Pro | Pro | Ile | Leu | Arg | Gln | Phe | Pro | Pro |
|     |     |     | 130 |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Asp | Phe | Arg | Asp | Gln | Glu | Ala | Met | Gln | Met | Val | Pro | Lys | Phe | Cys | Phe |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Pro | Phe | Asp | Val | Glu | Arg | Gly | Pro | Pro | Ser | Pro | Ala | Val | Gln | His | Phe |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Thr | Phe | Ala | Leu | Thr | Asp | Leu | Ala | Gly | Asn | Arg | Arg | Phe | Gly | Phe | Cys |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Arg | Leu | Arg | Ala | Gly | Thr | Gln | Ser | Cys | Leu | Cys | Ile | Leu | Ser | His | Leu |
|     |     |     | 195 |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Pro | Trp | Phe | Glu | Val | Phe | Tyr | Lys | Leu | Leu | Asn | Thr | Val | Gly | Asp | Leu |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Leu | Ala | Gln | Asp | Gln | Val | Thr | Glu | Ala | Glu | Glu | Leu | Leu | Gln | Asn | Leu |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Phe | Gln | Gln | Ser | Leu | Ser | Gly | Pro | Gln | Ala | Ser | Val | Gly | Leu | Glu | Leu |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Gly | Ser | Gly | Val | Thr | Val | Ser | Ser | Gly | Gln | Gly | Ile | Pro | Pro | Pro | Thr |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Arg | Gly | Asn | Ser | Lys | Pro | Leu | Ser | Cys | Phe | Val | Ala | Pro | Asp | Ser | Gly |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |
| Arg | Leu | Pro | Ser | Ile | Pro | Glu | Asn | Arg | Asn | Leu | Thr | Glu | Leu | Val | Val |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Ala | Val | Thr | Asp | Glu | Asn | Ile | Val | Gly | Leu | Phe | Ala | Ala | Leu | Leu | Ala |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Glu | Arg | Arg | Val | Leu | Leu | Thr | Ala | Ser | Lys | Leu | Ser | Thr | Leu | Arg | Arg |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Gly | Pro | Pro | Gly | Arg | Gly | Gly | Ser | Arg | Ala | Trp | Leu | Arg | Pro | Gly | Gly |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Arg | Asp | Lys | Gly | Ala | Asp | Ser | Leu | Leu |     |     |     |     |     |     |     |

355

360

&lt;210&gt; 3575

&lt;211&gt; 769

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3575

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 cagtcaaagg tgctggagtt gtgtctgtat agaagtaagt cgtcccacca acagtttctt  
 180  
 tttggatcac ctgaccagaa gacggagtct gagaaacagg attattaaca gatgtagagg  
 240  
 cactagaagg caccatgtaa cttgctggat ttggagtgtg acttcttctt ctgggagcag  
 300  
 gagaagtatg tggagtaatc ttgggggaat gaagagggga agaccagca gacaacgaca  
 360  
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 420  
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 480  
 caaagatgaa ggaaataatt ttatcttggt ttgttgtaga aaaagctctg attaaagcaa  
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 600  
 gaatagtctc ctccatatca aggtttacat caggaaattt aatagcaaga gtgacaaaaa  
 660  
 atttaataaa ttaatggaag agtggggaagt aacagaattg tggctcttta taaaattatg  
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 769

&lt;210&gt; 3576

&lt;211&gt; 205

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3576

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Glu | Thr | Ile | Leu | Ala | Val | Asn | Leu | Leu | Thr | Tyr | Leu | Glu | Ile |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Ser | Thr | Phe | Glu | Lys | Arg | Asn | Phe | Thr | Phe | Ala | Leu | Ile | Arg | Ala | Phe |
|     |     | 20  |     |     |     | 25  |     |     |     |     |     | 30  |     |     |     |
| Ser | Thr | Thr | Lys | Gln | Asp | Lys | Ile | Ile | Ser | Phe | Ile | Phe | Ala | Leu | Thr |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Ile | Pro | Lys | Met | Met | Phe | Leu | Pro | Asn | Glu | Cys | Leu | His | Phe | Ile | Phe |
|     | 50  |     |     |     | 55  |     |     |     |     |     | 60  |     |     |     |     |
| Gln | Thr | Cys | Ser | Leu | Lys | Pro | Ile | Ile | Ala | Pro | Leu | Arg | Asn | Ile | Phe |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Thr | Ser | Ser | Ser | Gly | Met | Ser | Leu | Ser | Ala | Gly | Ser | Ser | Pro | Leu | His |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ser | Pro | Lys | Ile | Thr | Pro | His | Thr | Ser | Pro | Ala | Pro | Arg | Arg | Arg | Ser |

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<210> 3577
<211> 1225
<212> DNA
<213> Homo sapiens
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2737

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 1140  
 caggcagaaa atggtaaaca tgaggtgtgt cttgtgactt aatttttgtt caagggacta  
 1200  
 agttgcttat gtttattccc tgtca  
 1225

<210> 3578

<211> 195

<212> PRT

<213> Homo sapiens

<400> 3578

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Asp | Ser | Ile | Arg | Arg | Gln | Phe | Glu | Phe | Ser | Val | Asp | Ser | Phe | Gln |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Ile | Ile | Leu | Asp | Ser | Leu | Leu | Phe | Phe | Tyr | Asp | Cys | Ser | Asn | Asn | Pro |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Ile | Ser | Glu | His | Phe | His | Pro | Thr | Val | Ile | Gly | Glu | Ser | Met | Tyr | Gly |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Asp | Phe | Glu | Glu | Ala | Phe | Asp | His | Leu | Gln | Asn | Arg | Leu | Ile | Ala | Thr |
| 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Lys | Asn | Pro | Glu | Glu | Ile | Arg | Gly | Gly | Gly | Leu | Leu | Lys | Tyr | Ser | Asn |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |     |
| Leu | Leu | Val | Arg | Asp | Phe | Arg | Pro | Thr | Asp | Gln | Glu | Glu | Ile | Lys | Thr |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Leu | Glu | Arg | Tyr | Met | Cys | Ser | Arg | Phe | Phe | Ile | Asp | Phe | Pro | Asp | Ile |
|     | 100 |     |     |     |     |     |     | 105 |     |     |     | 110 |     |     |     |
| Leu | Glu | Gln | Gln | Arg | Lys | Leu | Glu | Thr | Tyr | Leu | Gln | Asn | His | Phe | Ala |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Glu | Glu | Glu | Arg | Ser | Lys | Tyr | Asp | Tyr | Leu | Met | Ile | Leu | Arg | Arg | Val |
| 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |     |
| Val | Asn | Glu | Ser | Thr | Val | Cys | Leu | Met | Gly | His | Glu | Arg | Arg | Gln | Thr |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     | 160 |     |
| Leu | Asn | Leu | Ile | Ser | Leu | Leu | Ala | Leu | Arg | Val | Leu | Gly | Gly | Thr | Lys |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| His | His | Pro | Pro | Val | Pro | Pro | Arg | Ser | Pro | Val | Thr | Thr | Ser | Gly | Pro |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Leu | Ser | Gln |     |     |     |     |     |     |     |     |     |     |     |     |     |
|     | 195 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 3579

<211> 755

<212> DNA

<213> Homo sapiens

<400> 3579

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 120  
 cagatactcc agccaccgcg aaggttccag gaaaggacaa tgtcctgcga gaaaatcagg  
 180

aggcctccac ttccctgggcc acttgagaag ttccctgggca tgtcactaca tgttggttga  
 240  
 ctcagccatt totcatgctg ttttgtttct tgcggtggcc acttaacccc aaagaatgaa  
 300  
 gggaggatcc acagtgaaag tgccctgagtt tctctatgag accagatgct gtcgaaacca  
 360  
 aacatctttt cctttgctct atgggaacat tttagggttt gttttgcaca gctgggttcc  
 420  
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 aatggtaa ataatgcttta agctctacct ttaaacttgt atgttattca ggcattctct  
 660  
 attaagatac tgggtctctg gatacccaag gaaatgttgg ctttttattc ttatgtgggt  
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<210> 3580

<211> 121

<212> PRT

<213> Homo sapiens

<400> 3580

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Phe | Gly | Phe | Asp | Ser | Ile | Trp | Ser | His | Arg | Glu | Thr | Gln | Ala | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Leu | Trp | Ile | Leu | Pro | Ser | Phe | Phe | Gly | Val | Lys | Trp | Pro | Pro | Gln |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Thr | Lys | Gln | His | Glu | Lys | Trp | Leu | Ser | Gln | Pro | Thr | Cys | Ser | Asp |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Met | Pro | Arg | Asn | Phe | Ser | Ser | Gly | Pro | Gly | Ser | Gly | Gly | Leu | Leu | Ile |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Phe | Ser | Gln | Asp | Ile | Val | Leu | Ser | Trp | Asn | Leu | Ala | Gly | Gly | Trp | Ser |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Ile | Cys | Ile | Trp | Ser | Ile | Ala | Arg | Leu | Ser | His | Leu | Ser | Ser | Asp | Gln |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Lys | Cys | Ile | Ser | Lys | Ile | Ile | Thr | Ser | Thr | Lys | Thr | Ile | Ile | Asp | Cys |
|     |     |     | 100 |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Glu | Gln | Thr | Phe | Ser | Val | Thr | Ser | Arg |     |     |     |     |     |     |     |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     |     |     |     |     |

<210> 3581

<211> 2132

<212> DNA

<213> Homo sapiens

<400> 3581

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 120

ggcgccctgct ggacttgtac tcggcgggcg agcagcgcggt gtacgaggcg cgggaccgcg  
180  
gccgcctgga gctctcggcc tcggccttcg acgacggcaa cttctcgctg ctcatccgcg  
240  
cgggtggagga gacggacgcg gggctgtaca cctgcaacct gcaccatcac tactgccacc  
300  
tctacgagag cctggccgctc cgcttgaggg tcaccgacgg cccccggcc acccccgct  
360  
actgggacgg cgagaaggag gtgctggcgg tggcgcgcg cgaccccgcg cttctgacct  
420  
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480  
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720  
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780  
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840  
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900  
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960  
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1020  
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1080  
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1140  
ctgccaaagta catcgacctg gacaaagggt tccggaagga gaactgcaaa tagggaggcc  
1200  
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1260  
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1380  
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1680  
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1740

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 1920  
 ccctcccttg gactctgcct gggctggagt ctagggctgg ggctacattt ggcttctgta  
 1980  
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 2040  
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 2132

<210> 3582  
 <211> 138  
 <212> PRT  
 <213> Homo sapiens

<400> 3582  
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 35 40 45  
 Arg Ala Ser Ser Ala Cys Thr Arg Arg Gly Thr Ala Ala Ala Trp Ser  
 50 55 60  
 Ser Arg Pro Arg Pro Ser Thr Thr Ala Thr Ser Arg Cys Ser Ser Ala  
 65 70 75 80  
 Arg Trp Arg Arg Arg Thr Arg Gly Cys Thr Pro Ala Thr Cys Thr Ile  
 85 90 95  
 Thr Thr Ala Thr Ser Thr Arg Ala Trp Pro Ser Ala Trp Arg Ser Pro  
 100 105 110  
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 115 120 125  
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<210> 3583  
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 <212> DNA  
 <213> Homo sapiens

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 120  
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 180  
 gtctctgagg ctgtggttgc tacagggtca ccacgagctt ggcttacttg tctcatcctt  
 240

cccttgccctg gtatcatttt ctcagttctc ccaaaagcca tgtcccggcc cttgctcatc  
 300  
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 720  
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 780  
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 840  
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 960  
 tccaaccacc gcacatccac tgctcacctg ctgtcactgt cgcagggtcc tcagcctccc  
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 aaccttcac ttgggggtgc catctccagc cggggcttca aactgctgct gagggggggc  
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 1200  
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 1260  
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 1320  
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 1380  
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 1440  
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<210> 3584

<211> 356

<212> PRT

<213> Homo sapiens

<400> 3584

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Arg | Pro | Leu | Leu | Ile | Thr | Phe | Thr | Pro | Ala | Thr | Asp | Pro | Ser |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Asp | Leu | Trp | Lys | Asp | Gly | Gln | Gln | Gln | Pro | Gln | Pro | Glu | Lys | Pro | Glu |

[illegible]

<210> 3585

<211> 2782

&lt;212&gt; DNA

<213> Homo sapiens

<400> 3585

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60

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120

gtgggcgggg ccccttgggc cgtcgccacc actgtagtca tgtaccacc gccgcccgcg  
180  
ccgcctcatc gggacttcat ctcggtgacg ctgagctttg gcgagagcta tgacaacagc  
240  
aagagttggc ggcggcgctc gtgctggagg aaatggaagc aactgtcgag attgcagcgg  
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aatatgatc tcttctctct tgcctttctg cttttctgtg gactcctctt ctacatcaac  
360  
ttggctgacc attggaaagc tctggctttc aggctagagg aagagcagaa gatgaggcca  
420  
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480  
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540  
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600  
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660  
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720  
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780  
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1140  
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1200  
gcccacccgc cagcgtggac ctccgacagc actgtggccg aggtgaccag cattcagctg  
1260  
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1320  
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1380  
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1440  
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1680  
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1740

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&lt;211&gt; 663

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3586

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Tyr | Pro | Pro | Pro | Pro | Pro | Pro | His | Arg | Asp | Phe | Ile | Ser | Val |
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| Thr | Leu | Ser | Phe | Gly | Glu | Ser | Tyr | Asp | Asn | Ser | Lys | Ser | Trp | Arg |
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| Met | Ile | Leu | Phe | Leu | Leu | Ala | Phe | Leu | Leu | Phe | Cys | Gly | Leu | Phe |
|     |     |     | 50  |     |     | 55  |     |     |     | 60  |     |     |     |     |
| Tyr | Ile | Asn | Leu | Ala | Asp | His | Trp | Lys | Ala | Leu | Ala | Phe | Arg | Leu |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     | 80  |     |
| Glu | Glu | Gln | Lys | Met | Arg | Pro | Glu | Ile | Ala | Gly | Leu | Lys | Pro | Ala |
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|     |     |     |     | 85  |     |     |     | 90  |     |     |     | 95  |     |     |     |  |
| Pro | Pro | Val | Leu | Pro | Ala | Pro | Gln | Lys | Ala | Asp | Thr | Asp | Pro | Glu | Asn |  |
| 100 |     |     |     | 105 |     |     |     | 110 |     |     |     |     |     |     |     |  |
| Leu | Pro | Glu | Ile | Ser | Ser | Gln | Lys | Thr | Gln | Arg | His | Ile | Gln | Arg | Gly |  |
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| Pro | Pro | His | Leu | Gln | Ile | Arg | Pro | Pro | Ser | Gln | Asp | Leu | Lys | Asp | Gly |  |
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| Thr | Gln | Glu | Glu | Ala | Thr | Lys | Arg | Gln | Glu | Ala | Pro | Val | Asp | Pro | Arg |  |
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| Pro | Glu | Gly | Asp | Pro | Gln | Arg | Thr | Val | Ile | Ser | Trp | Arg | Gly | Ala | Val |  |
| 165 |     |     |     | 170 |     |     |     | 175 |     |     |     |     |     |     |     |  |
| Ile | Glu | Pro | Glu | Gln | Gly | Thr | Glu | Leu | Pro | Ser | Arg | Arg | Ala | Glu | Val |  |
| 180 |     |     |     | 185 |     |     |     | 190 |     |     |     |     |     |     |     |  |
| Pro | Thr | Lys | Pro | Pro | Leu | Pro | Pro | Ala | Arg | Thr | Gln | Gly | Thr | Pro | Val |  |
| 195 |     |     |     | 200 |     |     |     | 205 |     |     |     |     |     |     |     |  |
| His | Leu | Asn | Tyr | Arg | Gln | Lys | Gly | Val | Ile | Asp | Val | Phe | Leu | His | Ala |  |
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| Trp | Lys | Gly | Tyr | Arg | Lys | Phe | Ala | Trp | Gly | His | Asp | Glu | Leu | Lys | Pro |  |
| 225 |     |     |     |     | 230 |     |     |     | 235 |     |     |     | 240 |     |     |  |
| Val | Ser | Arg | Ser | Phe | Ser | Glu | Trp | Phe | Gly | Leu | Gly | Leu | Thr | Leu | Ile |  |
| 245 |     |     |     | 250 |     |     |     | 255 |     |     |     |     |     |     |     |  |
| Asp | Ala | Leu | Asp | Thr | Met | Trp | Ile | Leu | Gly | Leu | Arg | Lys | Glu | Phe | Glu |  |
| 260 |     |     |     | 265 |     |     |     | 270 |     |     |     |     |     |     |     |  |
| Glu | Ala | Arg | Lys | Trp | Val | Ser | Lys | Lys | Leu | His | Phe | Glu | Lys | Asp | Val |  |
| 275 |     |     |     | 280 |     |     |     | 285 |     |     |     |     |     |     |     |  |
| Asp | Val | Asn | Leu | Phe | Glu | Ser | Thr | Ile | Arg | Ile | Leu | Gly | Gly | Leu | Leu |  |
| 290 |     |     |     | 295 |     |     |     | 300 |     |     |     |     |     |     |     |  |
| Ser | Ala | Tyr | His | Leu | Ser | Gly | Asp | Ser | Leu | Phe | Leu | Arg | Lys | Ala | Glu |  |
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| Asp | Phe | Gly | Asn | Arg | Leu | Met | Pro | Ala | Phe | Arg | Thr | Pro | Ser | Lys | Ile |  |
| 325 |     |     |     | 330 |     |     |     | 335 |     |     |     |     |     |     |     |  |
| Pro | Tyr | Ser | Asp | Val | Asn | Ile | Gly | Thr | Gly | Val | Ala | His | Pro | Pro | Arg |  |
| 340 |     |     |     | 345 |     |     |     | 350 |     |     |     |     |     |     |     |  |
| Trp | Thr | Ser | Asp | Ser | Thr | Val | Ala | Glu | Val | Thr | Ser | Ile | Gln | Leu | Glu |  |
| 355 |     |     |     | 360 |     |     |     | 365 |     |     |     |     |     |     |     |  |
| Phe | Arg | Glu | Leu | Ser | Arg | Leu | Thr | Gly | Asp | Lys | Lys | Phe | Gln | Glu | Ala |  |
| 370 |     |     |     | 375 |     |     |     | 380 |     |     |     |     |     |     |     |  |
| Val | Glu | Lys | Val | Thr | Gln | His | Ile | His | Gly | Leu | Ser | Gly | Lys | Lys | Asp |  |
| 385 |     |     |     |     | 390 |     |     |     | 395 |     |     |     | 400 |     |     |  |
| Gly | Leu | Val | Pro | Met | Phe | Ile | Asn | Thr | His | Ser | Gly | Leu | Phe | Thr | His |  |
| 405 |     |     |     | 410 |     |     |     | 415 |     |     |     |     |     |     |     |  |
| Leu | Gly | Val | Phe | Thr | Leu | Gly | Ala | Arg | Ala | Asp | Ser | Tyr | Tyr | Glu | Tyr |  |
| 420 |     |     |     | 425 |     |     |     | 430 |     |     |     |     |     |     |     |  |
| Leu | Leu | Lys | Gln | Trp | Ile | Gln | Gly | Gly | Lys | Gln | Glu | Thr | Gln | Leu | Leu |  |
| 435 |     |     |     | 440 |     |     |     | 445 |     |     |     |     |     |     |     |  |
| Glu | Asp | Tyr | Val | Glu | Ala | Ile | Glu | Gly | Val | Arg | Thr | His | Leu | Leu | Arg |  |
| 450 |     |     |     | 455 |     |     |     | 460 |     |     |     |     |     |     |     |  |
| His | Ser | Glu | Pro | Ser | Lys | Leu | Thr | Phe | Val | Gly | Glu | Leu | Ala | His | Gly |  |
| 465 |     |     |     |     | 470 |     |     |     | 475 |     |     |     | 480 |     |     |  |
| Arg | Phe | Ser | Ala | Lys | Met | Asp | His | Leu | Val | Cys | Phe | Leu | Pro | Gly | Thr |  |
| 485 |     |     |     | 490 |     |     |     | 495 |     |     |     |     |     |     |     |  |
| Leu | Ala | Leu | Gly | Val | Tyr | His | Gly | Leu | Pro | Ala | Ser | His | Met | Glu | Leu |  |
| 500 |     |     |     | 505 |     |     |     | 510 |     |     |     |     |     |     |     |  |
| Ala | Gln | Glu | Leu | Met | Glu | Thr | Cys | Tyr | Gln | Met | Asn | Arg | Gln | Met | Glu |  |

|   |     |     |
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| 530   | 535 | 540 |
| Gly Arg Arg Asp Val Glu Val Lys Pro Ala Asp Arg His Asn Leu Leu |     |     |
| 545   | 550 | 555 |
| Arg Pro Glu Thr Val Glu Ser Leu Phe Tyr Leu Tyr Arg Val Thr Gly |     |     |
| 565   | 570 | 575 |
| Asp Arg Lys Tyr Gln Asp Trp Gly Trp Glu Ile Leu Gln Ser Phe Ser |     |     |
| 580   | 585 | 590 |
| Arg Phe Thr Arg Val Pro Ser Gly Gly Tyr Ser Ser Ile Asn Asn Val |     |     |
| 595   | 600 | 605 |
| Gln Asp Pro Gln Lys Pro Glu Pro Arg Asp Lys Met Glu Ser Phe Phe |     |     |
| 610   | 615 | 620 |
| Leu Gly Glu Thr Leu Lys Tyr Leu Phe Leu Leu Phe Ser Asp Asp Pro |     |     |
| 625   | 630 | 635 |
| Asn Leu Leu Ser Leu Asp Ala Tyr Val Phe Asn Thr Glu Ala His Pro |     |     |
| 645   | 650 | 655 |
| Leu Pro Ile Trp Thr Pro Ala                                     |     |     |
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&lt;210&gt; 3587

&lt;211&gt; 3148

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3587

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<212> PRT

<213> Homo sapiens

<400> 3588

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| Met | Ser | Leu | Ala | Asp | Glu | Leu | Leu | Ala | Asp | Leu | Glu | Glu | Ala | Ala | Glu |
| 1   |     |     | 5   |     |     |     |     |     | 10  |     |     |     | 15  |     |     |
| Glu | Glu | Glu | Gly | Ser | Tyr | Gly | Glu | Glu | Glu | Glu | Glu | Pro | Ala | Ile |     |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Glu | Asp | Val | Gln | Glu | Glu | Thr | Gln | Leu | Asp | Leu | Ser | Gly | Asp | Ser | Val |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Lys | Thr | Ile | Ala | Lys | Leu | Trp | Asp | Ser | Lys | Met | Phe | Ala | Glu | Ile | Met |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Met | Lys | Ile | Glu | Glu | Tyr | Ile | Ser | Lys | Gln | Ala | Lys | Ala | Ser | Glu | Val |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Met | Gly | Pro | Val | Glu | Ala | Ala | Pro | Glu | Tyr | Arg | Val | Ile | Val | Asp | Ala |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Asn | Asn | Leu | Thr | Val | Glu | Ile | Glu | Asn | Glu | Leu | Asn | Ile | Ile | His | Lys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Phe | Ile | Arg | Asp | Lys | Tyr | Ser | Lys | Arg | Phe | Pro | Glu | Leu | Glu | Ser | Leu |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Val | Pro | Asn | Ala | Leu | Asp | Tyr | Ile | Arg | Thr | Val | Lys | Glu | Leu | Gly | Asn |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ser | Leu | Asp | Lys | Cys | Lys | Asn | Asn | Glu | Asn | Leu | Gln | Gln | Ile | Leu | Thr |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Asn | Ala | Thr | Ile | Met | Val | Val | Ser | Val | Thr | Ala | Ser | Thr | Thr | Gln | Gly |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Gln | Gln | Leu | Ser | Glu | Glu | Glu | Leu | Glu | Arg | Leu | Glu | Glu | Ala | Cys | Asp |

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<212> DNA
<213> Homo sapiens
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<211> 117

<212> PRT

<213> Homo sapiens

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| Met | Leu | Pro | Thr | Arg | Pro | Pro | Asn | Thr | Leu | Ala | Ser | Gly | Val | Ser | Thr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Asn | Leu | Ile | Leu | Pro | Ser | Pro | Asp | Ser | Ser | Pro | Gln | Ala | Lys | Pro | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asp | Pro | Met | Ser | Pro | Phe | His | Leu | Ser | Ser | Val | Ile | Leu | Cys | Arg | Pro |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ser | Ala | Trp | Pro | Cys | Leu | Arg | Ser | Ser | Ser | Pro | Pro | Ala | Ala | Gln | Gly |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ser | Phe | Val | Ser | Ala | Gln | Glu | Gly | Pro | Tyr | Asn | Pro | Ser | Trp | Leu | Trp |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Pro | Gly | Pro | Cys | Phe | Val | Ser | Glu | Leu | Gly | Gly | Pro | Ile | Pro | Lys | His |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Trp | Leu | Gly | Asn | Ser | Tyr | Pro | Ile | Cys | Cys | Leu | Gly | Ser | Ala | Trp | Phe |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Phe | Thr | His | Ile | Ser |     |     |     |     |     |     |     |     |     |     |     |
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<212> DNA

<213> Homo sapiens

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&lt;210&gt; 3592

&lt;211&gt; 223

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3592

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Ala | Cys | Ser | Ala | Leu | Ala | Met | Arg | Leu | Leu | Gly | Ala | Ala | Ala | Val |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Ala | Leu | Gly | Arg | Gly | Arg | Ala | Pro | Ala | Ser | Leu | Gly | Trp | Gln | Arg |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Lys | Gln | Val | Asn | Trp | Lys | Ala | Cys | Arg | Trp | Ser | Ser | Ser | Gly | Val | Ile |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Pro | Asn | Glu | Lys | Ile | Arg | Asn | Ile | Gly | Ile | Ser | Ala | His | Ile | Asp | Ser |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gly | Lys | Thr | Thr | Leu | Thr | Glu | Arg | Val | Leu | Tyr | Tyr | Thr | Gly | Arg | Ile |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ala | Lys | Met | His | Glu | Val | Lys | Gly | Lys | Asp | Gly | Val | Gly | Ala | Val | Met |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Asp | Ser | Met | Glu | Leu | Glu | Arg | Gln | Arg | Gly | Ile | Thr | Ile | Gln | Ser | Ala |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ala | Thr | Tyr | Thr | Met | Trp | Lys | Asp | Val | Asn | Ile | Asn | Ile | Ile | Asp | Thr |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Pro | Gly | His | Val | Asp | Phe | Thr | Ile | Glu | Val | Glu | Arg | Ala | Leu | Arg | Val |
|     |     | 130 |     |     |     |     | 135 |     |     |     | 140 |     |     |     |     |
| Leu | Asp | Gly | Ala | Val | Leu | Val | Leu | Cys | Ala | Val | Gly | Gly | Val | Gln | Cys |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Gln | Thr | Met | Thr | Val | Asn | Arg | Gln | Met | Lys | Arg | Tyr | Asn | Val | Pro | Phe |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Leu | Thr | Phe | Ile | Asn | Lys | Leu | Asp | Arg | Met | Gly | Ser | Asn | Pro | Ala | Arg |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ala | Leu | Gln | Gln | Met | Arg | Ser | Lys | Leu | Asn | His | Asn | Ala | Ala | Phe | Met |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Gln | Ile | Pro | Met | Gly | Leu | Glu | Gly | Asn | Phe | Lys | Gly | Ile | Val | Asp |     |
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 <212> DNA  
 <213> Homo sapiens

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 240  
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<210> 3594  
 <211> 282  
 <212> PRT  
 <213> Homo sapiens

<400> 3594  
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 35 40 45  
 Arg Leu Leu Gly Ala Leu Cys Leu Gln Arg Pro Pro Val Val Ser Lys

|   |     |     |
|---|-----|-----|
| 50  | 55  | 60  |
| Pro Leu Thr Pro Leu Gln Glu Glu Met Ala Ser Leu Leu Gln Gln Ile |     |     |
| 65  | 70  | 75  |
| Glu Ile Glu Arg Ser Leu Tyr Ser Asp His Glu Leu Arg Ala Leu Asp |     | 80  |
|   | 85  | 90  |
| Glu Asn Gln Arg Leu Ala Lys Lys Lys Ala Asp Leu His Asp Glu Glu |     | 95  |
|   | 100 | 105 |
| Asp Glu Gln Asp Ile Leu Leu Ala Gln Asp Leu Glu Asp Met Trp Glu |     | 110 |
|   | 115 | 120 |
| Gln Lys Phe Leu Gln Phe Lys Leu Gly Ala Arg Ile Thr Glu Ala Asp |     | 125 |
|   | 130 | 135 |
| Glu Lys Asn Asp Arg Thr Ser Leu Asn Arg Lys Leu Asp Arg Asn Leu |     | 140 |
| 145   | 150 | 155 |
| Val Leu Leu Val Arg Glu Lys Phe Gly Asp Gln Asp Val Trp Ile Leu |     | 160 |
|   | 165 | 170 |
| Pro Gln Ala Glu Trp Gln Pro Gly Glu Thr Leu Arg Gly Thr Ala Glu |     | 175 |
|   | 180 | 185 |
| Arg Thr Leu Ala Thr Leu Ser Glu Asn Asn Met Glu Ala Lys Phe Leu |     | 190 |
|   | 195 | 200 |
| Gly Asn Ala Pro Cys Gly His Tyr Thr Phe Lys Phe Pro Gln Ala Met |     | 205 |
|   | 210 | 215 |
| Arg Thr Glu Ser Asn Leu Gly Ala Lys Val Phe Phe Phe Lys Ala Leu |     | 220 |
| 225   | 230 | 235 |
| Leu Leu Thr Gly Asp Phe Ser Gln Ala Gly Asn Lys Gly His His Val |     | 240 |
|   | 245 | 250 |
| Trp Val Thr Lys Asp Glu Leu Gly Asp Tyr Leu Lys Pro Lys Tyr Leu |     | 255 |
|   | 260 | 265 |
| Ala Gln Val Arg Arg Phe Val Ser Asp Leu                         |     | 270 |
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&lt;210&gt; 3595

&lt;211&gt; 1903

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3595

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540

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1860  
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1903

&lt;210&gt; 3596

&lt;211&gt; 496

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3596

Phe Gln Val Thr Arg Gly Asp Tyr Ala Pro Ile Leu Gln Lys Val Val

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1   |     | 5   |     | 10  |     | 15  |     |     |     |     |     |     |     |     |     |
| Glu | Gln | Leu | Glu | Lys | Ala | Lys | Ala | Tyr | Ala | Ala | Asn | Ser | His | Gln | Gly |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gln | Met | Leu | Ala | Gln | Tyr | Ile | Glu | Ser | Phe | Thr | Gln | Gly | Ser | Ile | Glu |
|     |     | 35  |     |     |     |     |     | 40  |     |     |     | 45  |     |     |     |
| Ala | His | Lys | Arg | Gly | Ser | Arg | Phe | Trp | Ile | Gln | Asp | Lys | Gly | Pro | Ile |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Val | Glu | Ser | Tyr | Ile | Gly | Phe | Ile | Glu | Ser | Tyr | Arg | Asp | Pro | Phe | Gly |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ser | Arg | Gly | Glu | Phe | Glu | Gly | Phe | Val | Ala | Val | Val | Asn | Lys | Ala | Met |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ser | Ala | Lys | Phe | Glu | Arg | Leu | Val | Ala | Ser | Ala | Glu | Gln | Leu | Leu | Lys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Glu | Leu | Pro | Trp | Pro | Pro | Thr | Phe | Glu | Lys | Asp | Lys | Phe | Leu | Thr | Pro |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Asp | Phe | Thr | Ser | Leu | Asp | Val | Leu | Thr | Phe | Ala | Gly | Ser | Gly | Ile | Pro |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ala | Gly | Ile | Asn | Ile | Pro | Asn | Tyr | Asp | Asp | Leu | Arg | Gln | Thr | Glu | Gly |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Phe | Lys | Asn | Val | Ser | Leu | Gly | Asn | Val | Leu | Ala | Val | Ala | Tyr | Ala | Thr |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Gln | Arg | Glu | Lys | Leu | Thr | Phe | Leu | Glu | Glu | Asp | Asp | Lys | Asp | Leu | Tyr |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ile | Leu | Trp | Lys | Gly | Pro | Ser | Phe | Asp | Val | Gln | Val | Gly | Leu | His | Glu |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Leu | Leu | Gly | His | Gly | Ser | Gly | Lys | Leu | Phe | Val | Gln | Asp | Glu | Lys | Gly |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ala | Phe | Asn | Phe | Asp | Gln | Glu | Thr | Val | Ile | Asn | Pro | Glu | Thr | Gly | Glu |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Gln | Ile | Gln | Ser | Trp | Tyr | Arg | Ser | Gly | Glu | Thr | Trp | Asp | Ser | Lys | Phe |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Ser | Thr | Ile | Ala | Ser | Ser | Tyr | Glu | Glu | Cys | Arg | Ala | Glu | Ser | Val | Gly |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Leu | Tyr | Leu | Cys | Leu | His | Pro | Gln | Val | Leu | Glu | Ile | Phe | Gly | Phe | Glu |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Gly | Ala | Asp | Ala | Glu | Asp | Val | Ile | Tyr | Val | Asn | Trp | Leu | Asn | Met | Val |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Arg | Ala | Gly | Leu | Leu | Ala | Leu | Glu | Phe | Tyr | Thr | Pro | Glu | Ala | Phe | Asn |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |     |
| Trp | Arg | Gln | Ala | His | Met | Gln | Ala | Arg | Phe | Val | Ile | Leu | Arg | Val | Leu |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Leu | Glu | Ala | Gly | Glu | Gly | Leu | Val | Thr | Ile | Thr | Pro | Thr | Thr | Gly | Ser |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Asp | Gly | Arg | Pro | Asp | Ala | Arg | Val | Arg | Leu | Asp | Arg | Ser | Lys | Ile | Arg |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Ser | Val | Gly | Lys | Pro | Ala | Leu | Glu | Arg | Phe | Leu | Arg | Arg | Leu | Gln | Val |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Leu | Lys | Ser | Thr | Gly | Asp | Val | Ala | Gly | Gly | Arg | Ala | Leu | Tyr | Glu | Gly |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     | 400 |     |
| Tyr | Ala | Thr | Val | Thr | Asp | Ala | Pro | Pro | Glu | Cys | Phe | Leu | Thr | Leu | Arg |
|     |     |     | 405 |     |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Asp | Thr | Val | Leu | Leu | Arg | Lys | Glu | Ser | Arg | Lys | Leu | Ile | Val | Gln | Pro |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     | 430 |     |     |     |
| Asn | Thr | Arg | Leu | Glu | Gly | Asn | Gly | Ser | Asp | Val | Gln | Leu | Leu | Glu | Tyr |

|     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|
|     | 435 |     | 440 |     | 445 |     |
| Glu | Ala | Ser | Ala | Ala | Gly | Leu |
|     | 450 |     | 455 |     | 460 |     |
| Glu | Asp | Gly | Pro | Glu | Leu | Glu |
| 465 |     |     | 470 |     | 475 |     |
| Asp | Ala | Arg | Phe | Trp | Lys | Gly |
|     |     | 485 |     | 490 |     | 495 |

&lt;210&gt; 3597

&lt;211&gt; 1090

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3597

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&lt;210&gt; 3598

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 <212> PRT  
 <213> Homo sapiens

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 35 40 45  
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 50 55 60  
 Gln Pro Ser Tyr Val Pro Ala Pro Leu Arg Lys Lys Lys Pro Asp Lys  
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 Asp Gly Thr Phe Ser Arg Ser Lys Ser Met Ser Asp Val Ser Ala Glu  
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691

<210> 3600

<211> 98

<212> PRT

<213> Homo sapiens

<400> 3600

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
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| Met | Gly | Ser | Cys | Tyr | Lys | Thr | Lys | Lys | Phe | Leu | Leu | Ser | Leu | Ala | Glu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Asn | Lys | Leu | Gly | Pro | Cys | Met | Leu | Leu | Ala | Leu | Arg | Gly | Asn | Gln | Thr |
|     |     |     | 20  |     |     |     |     |     | 25  |     |     |     | 30  |     |     |
| Met | Val | Glu | Val | Arg | Ser | Trp | Ser | Gly | Ser | Leu | Val | Gly | Trp | Leu | Ala |
|     |     | 35  |     |     |     |     |     | 40  |     |     |     | 45  |     |     |     |
| Pro | Arg | Pro | Leu | Ser | Val | Pro | Ile | Glu | His | Leu | Leu | Gly | Ala | Lys | Asn |
|     |     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |
| Cys | Cys | Arg | His | Gly | Gly | Gln | Trp | Val | Arg | Arg | Ala | Val | Pro | Ala | Val |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Leu | Ser | Leu | Val | Gly | Ala | Ser | Ser | Leu | His | His | Ala | Val | Tyr | Leu | Phe |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |

Leu Leu

<210> 3601

<211> 2963

<212> DNA

<213> Homo sapiens

<400> 3601

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<210> 3602

<211> 299

<212> PRT

<213> Homo sapiens

<400> 3602

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Glu | Asp | Glu | Arg | Gly | Ser | Ala | Val | Ala | Arg | Ala | Arg | Gly | Arg | Gly |
| 1   |     |     | 5   |     |     |     |     |     | 10  |     |     |     | 15  |     |     |
| Ser | Arg | Ser | Pro | Leu | Cys | Gly | Arg | Tyr | Met | Ser | Gln | Ser | Lys | His | Thr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Ala | Arg | Glu | Leu | Met | Tyr | Ser | Gly | Ala | Leu | Leu | Phe | Phe | Ser | His |
|     |     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |
| Gly | Gln | Gln | Asn | Ser | Ala | Ala | Asp | Leu | Ser | Met | Leu | Val | Leu | Glu | Ser |
|     |     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |
| Leu | Glu | Lys | Ala | Glu | Val | Glu | Val | Ala | Asp | Glu | Leu | Leu | Glu | Asn | Leu |
|     |     |     |     |     |     | 70  |     |     |     | 75  |     |     |     | 80  |     |
| Ala | Lys | Val | Phe | Ser | Leu | Met | Asp | Pro | Asn | Ser | Pro | Glu | Arg | Val | Thr |
|     |     |     |     |     |     | 85  |     |     |     | 90  |     |     |     | 95  |     |
| Phe | Val | Ser | Arg | Ala | Leu | Lys | Trp | Ser | Ser | Gly | Gly | Ser | Gly | Lys | Leu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gly | His | Pro | Arg | Leu | His | Gln | Leu | Leu | Ala | Leu | Thr | Leu | Trp | Lys | Glu |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Gln | Asn | Tyr | Cys | Glu | Ser | Arg | Tyr | His | Phe | Leu | His | Ser | Ala | Asp | Gly |
|     |     |     | 130 |     |     |     | 135 |     |     |     | 140 |     |     |     |     |
| Glu | Gly | Cys | Ala | Asn | Met | Leu | Val | Glu | Tyr | Ser | Thr | Ser | Arg | Gly | Phe |
|     |     |     |     |     |     | 150 |     |     |     | 155 |     |     |     | 160 |     |
| Arg | Ser | Glu | Val | Asp | Met | Phe | Val | Ala | Gln | Ala | Val | Leu | Gln | Phe | Leu |
|     |     |     |     |     |     | 165 |     |     |     | 170 |     |     |     | 175 |     |
| Cys | Leu | Lys | Asn | Lys | Ser | Ser | Ala | Ser | Val | Val | Phe | Thr | Thr | Tyr | Thr |
|     |     |     | 180 |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Gln | Lys | His | Pro | Ser | Ile | Glu | Asp | Gly | Pro | Pro | Phe | Val | Glu | Pro | Leu |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |     |  |
| Leu | Asn | Phe | Ile | Trp | Phe | Leu | Leu | Leu | Ala | Val | Asp | Gly | Gly | Lys | Leu |  |
| 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |     |  |
| Thr | Val | Phe | Thr | Val | Leu | Cys | Glu | Gln | Tyr | Gln | Pro | Ser | Leu | Arg | Arg |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |
| Asp | Pro | Met | Tyr | Asn | Glu | Tyr | Leu | Asp | Arg | Ile | Gly | Gln | Leu | Phe | Phe |  |
| 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |     |     |     |  |
| Gly | Val | Pro | Pro | Lys | Gln | Thr | Ser | Ser | Tyr | Gly | Gly | Leu | Leu | Gly | Asn |  |
| 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |     |     |     |  |
| Leu | Leu | Thr | Ser | Leu | Met | Gly | Ser | Ser | Glu | Gln | Glu | Asp | Gly | Glu | Glu |  |
| 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |     |     |  |
| Ser | Pro | Ser | Asp | Gly | Ser | Pro | Ile | Glu | Leu | Asp |     |     |     |     |     |  |
| 290 |     |     |     |     | 295 |     |     |     |     |     |     |     |     |     |     |  |

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<212> DNA
<213> Homo sapiens
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1020

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 1082

<210> 3604  
 <211> 146  
 <212> PRT  
 <213> Homo sapiens

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 50 55 60  
 Gly Gly Ser Gln Glu Lys Arg Gly Arg Pro Ser Gln Glu Pro Pro Leu  
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 Ala Pro Pro His Arg Arg Arg Ser Arg Gln His Pro Gly Pro Leu  
 85 90 95  
 Pro Pro Thr Asn Ala Ala Pro Thr Val Pro Gly Pro Val Glu Pro Leu  
 100 105 110  
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 Arg Leu  
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<210> 3605  
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 <212> DNA  
 <213> Homo sapiens

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2004

&lt;210&gt; 3606

&lt;211&gt; 324

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3606

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      35           40           45
Arg Tyr Met Ser Gln Ser Lys His Thr Glu Ala Arg Glu Leu Met Tyr
      50           55           60
Ser Gly Ala Leu Leu Phe Phe Ser His Gly Gln Gln Asn Ser Ala Ala
      65           70           75           80
Asp Leu Ser Met Leu Val Leu Glu Ser Leu Glu Lys Ala Glu Val Glu
      85           90           95
Val Ala Asp Glu Leu Leu Glu Asn Leu Ala Lys Val Phe Ser Leu Met
      100          105          110
Asp Pro Asn Ser Pro Glu Arg Val Thr Phe Val Ser Arg Ala Leu Lys
      115          120          125
Trp Ser Ser Gly Gly Ser Gly Lys Leu Gly His Pro Arg Leu His Gln
      130          135          140
Leu Leu Ala Leu Thr Leu Trp Lys Glu Gln Asn Tyr Cys Glu Ser Arg
      145          150          155          160
Tyr His Phe Leu His Ser Ala Asp Gly Glu Gly Cys Ala Asn Met Leu
      165          170          175
Val Glu Tyr Ser Thr Ser Arg Gly Phe Arg Ser Glu Val Asp Met Phe
      180          185          190
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      195          200          205
Ala Ser Val Val Phe Thr Thr Tyr Thr Gln Lys His Pro Ser Ile Glu
      210          215          220
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      225          230          235          240
Leu Leu Ala Val Asp Gly Gly Lys Leu Thr Val Phe Thr Val Leu Cys
      245          250          255
Glu Gln Tyr Gln Pro Ser Leu Arg Arg Asp Pro Met Tyr Asn Glu Tyr
      260          265          270
Leu Asp Arg Ile Gly Gln Leu Phe Phe Gly Val Pro Pro Lys Gln Thr
      275          280          285
Ser Ser Tyr Gly Gly Leu Leu Gly Asn Leu Leu Thr Ser Leu Met Gly
      290          295          300
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      305          310          315          320
Ile Glu Leu Asp

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&lt;210&gt; 3607

&lt;211&gt; 1726

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3607

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420  
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1620

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1680

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1726

<210> 3608

<211> 436

<212> PRT

<213> Homo sapiens

<400> 3608

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Ala | Ser | Trp | Glu | Leu | Val | Asp | Pro | Thr | Pro | Asp | Leu | Gln | Ala | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Phe | Val | Gln | Phe | Asn | Asp | Gln | Phe | Phe | Trp | Gly | Gln | Leu | Glu | Ala | Val |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Glu | Val | Lys | Trp | Ser | Val | Arg | Met | Thr | Leu | Cys | Ala | Gly | Ile | Cys | Ser |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Tyr | Glu | Gly | Lys | Gly | Gly | Met | Cys | Ser | Ile | Arg | Leu | Ser | Glu | Pro | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Lys | Leu | Arg | Pro | Arg | Lys | Asp | Leu | Val | Glu | Thr | Leu | Leu | His | Glu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Met | Ile | His | Ala | Tyr | Leu | Phe | Val | Thr | Asn | Asn | Asp | Lys | Asp | Arg | Glu |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Gly | His | Gly | Pro | Glu | Phe | Cys | Lys | His | Met | His | Arg | Ile | Asn | Ser | Leu |
|     |     |     | 100 |     |     |     |     |     | 105 |     |     |     | 110 |     |     |
| Thr | Gly | Ala | Asn | Ile | Thr | Val | Tyr | His | Thr | Phe | His | Asp | Glu | Val | Asp |
|     |     | 115 |     |     |     |     |     | 120 |     |     |     | 125 |     |     |     |
| Glu | Tyr | Arg | Arg | His | Trp | Trp | Arg | Cys | Asn | Gly | Pro | Cys | Gln | His | Arg |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Pro | Pro | Tyr | Tyr | Gly | Tyr | Val | Lys | Arg | Ala | Thr | Asn | Arg | Glu | Pro | Ser |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Ala | His | Asp | Tyr | Trp | Trp | Ala | Glu | His | Gln | Lys | Thr | Cys | Gly | Gly | Thr |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Tyr | Ile | Lys | Ile | Lys | Glu | Pro | Glu | Asn | Tyr | Ser | Lys | Lys | Gly | Lys | Gly |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Lys | Ala | Lys | Leu | Gly | Lys | Glu | Pro | Val | Leu | Ala | Ala | Glu | Asn | Lys | Asp |
|     | 195 |     |     |     |     |     | 200 |     |     |     | 205 |     |     |     |     |
| Lys | Pro | Asn | Arg | Gly | Glu | Ala | Gln | Leu | Val | Ile | Pro | Phe | Ser | Gly | Lys |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Gly | Tyr | Val | Leu | Gly | Glu | Thr | Ser | Asn | Leu | Pro | Ser | Pro | Gly | Lys | Leu |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     |     | 240 |
| Ile | Thr | Ser | His | Ala | Ile | Asn | Lys | Thr | Gln | Asp | Leu | Leu | Asn | Gln | Asn |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| His | Ser | Ala | Asn | Ala | Val | Arg | Pro | Asn | Ser | Lys | Ile | Lys | Val | Lys | Phe |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Glu | Gln | Asn | Gly | Ser | Ser | Lys | Asn | Ser | His | Leu | Val | Ser | Pro | Ala | Val |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Ser | Asn | Ser | His | Gln | Asn | Val | Leu | Ser | Asn | Tyr | Phe | Pro | Arg | Val | Ser |
|     | 290 |     |     |     | 295 |     |     |     |     |     | 300 |     |     |     |     |
| Phe | Ala | Asn | Gln | Lys | Ala | Phe | Arg | Gly | Val | Asn | Gly | Ser | Pro | Arg | Ile |
| 305 |     |     |     | 310 |     |     |     |     |     | 315 |     |     |     |     | 320 |
| Ser | Val | Thr | Val | Gly | Asn | Ile | Pro | Lys | Asn | Ser | Val | Ser | Ser | Ser | Ser |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Gln | Arg | Arg | Val | Ser | Ser | Ser | Lys | Ile | Ser | Leu | Arg | Asn | Ser | Ser | Lys |



tctcatttct agaggttcc acctttttat acactcagcc ttccctctcc caggcaggag  
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 gacccccaga cctgttccc ctgcagacct cacttctggg agacagagct acagctggga  
 1140  
 cagctccaag ctaccctaac cctccttttc ccagggtttct agaatagtgt ctggcatgta  
 1200  
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<210> 3610

<211> 268

<212> PRT

<213> Homo sapiens

<400> 3610

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Leu | Ala | Val | Ala | Cys | Val | Asn | Gln | Trp | Glu | Gln | Leu | Arg | Gly | Pro | 1   | 5   | 10  | 15  |
| Gly | Gly | Asn | Glu | Asp | Gly | Pro | Gln | Lys | Leu | Asp | Leu | Glu | Ala | Asp | Ala | 20  | 25  | 30  |     |
| Glu | Pro | Gln | Asp | Leu | Glu | Ser | Thr | Asn | Leu | Leu | Glu | Ser | Glu | Ala | Pro | 35  | 40  | 45  |     |
| Arg | Asp | Tyr | Phe | Leu | Lys | Phe | Ala | Tyr | Ile | Val | Asp | Leu | Asp | Ser | Asp | 50  | 55  | 60  |     |
| Thr | Ala | Asp | Lys | Phe | Leu | Gln | Leu | Xaa | Trp | Asn | Gln | Arg | Cys | Gln | Glu | 65  | 70  | 75  | 80  |
| Gly | Ala | Val | Ser | Tyr | Gln | Xaa | Tyr | Pro | Leu | Ser | Pro | Thr | Arg | Phe | Thr | 85  | 90  | 95  |     |
| His | Cys | Glu | Gln | Val | Leu | Gly | Glu | Gly | Ala | Leu | Asp | Arg | Gly | Thr | Tyr | 100 | 105 | 110 |     |
| Tyr | Trp | Glu | Val | Glu | Ile | Ile | Glu | Gly | Trp | Val | Ser | Met | Gly | Val | Met | 115 | 120 | 125 |     |
| Ala | Ala | Asp | Phe | Ser | Pro | Gln | Glu | Pro | Tyr | Asp | Arg | Gly | Arg | Leu | Gly | 130 | 135 | 140 |     |
| Arg | Asn | Ala | His | Ser | Cys | Cys | Leu | Gln | Trp | Asn | Gly | Arg | Ser | Phe | Ser | 145 | 150 | 155 | 160 |
| Val | Trp | Phe | His | Gly | Leu | Glu | Ala | Pro | Leu | Pro | His | Pro | Phe | Ser | Pro | 165 | 170 | 175 |     |
| Thr | Val | Gly | Val | Cys | Leu | Glu | Tyr | Ala | Asp | Arg | Ala | Leu | Ala | Phe | Tyr | 180 | 185 | 190 |     |
| Ala | Val | Arg | Asp | Gly | Lys | Met | Ser | Leu | Leu | Arg | Arg | Leu | Lys | Ala | Ser | 195 | 200 | 205 |     |
| Arg | Pro | Arg | Arg | Gly | Gly | Ile | Pro | Ala | Ser | Pro | Ile | Asp | Pro | Phe | Gln | 210 | 215 | 220 |     |
| Ser | Arg | Leu | Asp | Ser | His | Phe | Ala | Gly | Leu | Phe | Thr | His | Arg | Leu | Lys | 225 | 230 | 235 | 240 |
| Pro | Ala | Phe | Phe | Leu | Glu | Ser | Val | Asp | Ala | His | Leu | Gln | Ile | Gly | Pro | 245 | 250 | 255 |     |
| Leu | Lys | Lys | Ser | Cys | Ile | Ser | Val | Leu | Lys | Arg | Arg |     |     |     |     | 260 | 265 |     |     |

<210> 3611

<211> 816

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3611

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 agctacaaag ggatcttcca gtatgactac catgataaag tgaagccaag aaagatatc  
 120  
 caatggagac agttggaaaa cctgtacttc agagaaaaga agttttccgt ggaagtccat  
 180  
 gacccacgca gggcttcagt gacaaggagg acgtttgggc acagcggcat tgcagtgcac  
 240  
 acgtggtatg catgtccggc attgatcaag tccatctggg ctatggccat aagccaacac  
 300  
 cagttctatc tggacagaaa gcagagtaag tccaaaatcc atgcagcacg cagcctgagt  
 360  
 gagatcgcca tcgacctgac cgagacgggg acgtgaaga cctcgaagct ggccaacatg  
 420  
 ggtagcaagg ggaagatcat cagcggcagc agcggcagcc tgctgtcttc aggttctcag  
 480  
 gaatcagata gctcgcagtc ggccaagaag gacatgctgg ctgccttgaa gtccaggcag  
 540  
 gaagctctgg aggaaaccct gcgtcagagg ctggaggaac tgaagaagct gtgtctccga  
 600  
 gaagctgagc tcacgggcaa gctgccagta gaatatcccc tggatccagg ggaggaacca  
 660  
 ccattgttc ggagaagaat aggaacagcc ttcaaactgg atgaacagaa aatcctgccc  
 720  
 aaaggagagg aagctgaact ggaacgcctg gaacgagagt ttgccattca gtcccagatt  
 780  
 acggaggccg cccgcgcct agccagtgc cccaac  
 816

&lt;210&gt; 3612

&lt;211&gt; 272

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3612

Tyr Gly Val His Tyr Tyr Ala Val Lys Asp Lys Gln Gly Ile Pro Trp  
 1 5 10 15  
 Trp Leu Gly Leu Ser Tyr Lys Gly Ile Phe Gln Tyr Asp Tyr His Asp  
 20 25 30  
 Lys Val Lys Pro Arg Lys Ile Phe Gln Trp Arg Gln Leu Glu Asn Leu  
 35 40 45  
 Tyr Phe Arg Glu Lys Lys Phe Ser Val Glu Val His Asp Pro Arg Arg  
 50 55 60  
 Ala Ser Val Thr Arg Arg Thr Phe Gly His Ser Gly Ile Ala Val His  
 65 70 75 80  
 Thr Trp Tyr Ala Cys Pro Ala Leu Ile Lys Ser Ile Trp Ala Met Ala  
 85 90 95  
 Ile Ser Gln His Gln Phe Tyr Leu Asp Arg Lys Gln Ser Lys Ser Lys  
 100 105 110  
 Ile His Ala Ala Arg Ser Leu Ser Glu Ile Ala Ile Asp Leu Thr Glu



&lt;400&gt; 3614

```

Met Gln Ser Val Thr Arg Pro Gly Ile Pro Met Cys Ala Gln Leu Ala
 1           5           10           15
His Ser Ile Ile Val Pro Arg Lys Leu Leu Gln Phe Ile Lys Ser Ser
      20           25           30
Gly Leu Gly Ile Ser Leu Asn Ser Lys Arg Arg Lys Glu Glu Thr Phe
      35           40           45
Pro Thr Arg Cys Gly Cys Asp Ala Ser Gln Gly Pro Gln Gly His Cys
      50           55           60
Pro Arg Ala His Arg Pro Pro Leu Thr Ala Thr Gly Ala Trp Ile Arg
      65           70           75           80
Ser Tyr Ile Val Gln Ser Phe Arg Pro Leu Pro Trp Ser Thr Arg Thr
      85           90           95
Arg Ala Arg Ile Ser Gly Arg Ala His Thr His Ser Tyr Thr Arg Thr
      100          105          110
Gln Thr Arg Ser Glu Lys Ser Pro Pro Pro Pro
      115          120

```

&lt;210&gt; 3615

&lt;211&gt; 1388

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3615

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120
cagtccccgc gagtccagat gcctgtccag cctccaagca aagacacaga agagatggaa
180
gcagagggtg attctgctgc tgagatgaat ggggaggagg aagagagtga ggaggagcgg
240
agcggcagcc agacagagtc agaagaggag agctccgaga tggatgatga ggactatgag
300
cgacgccgca gcgagtgtgt cagtgagatg ctggacctag agaagcagtt ctcggagcta
360
aaggagaagt tgttcaggga acgactgagt cagctgcggt tgcggctgga ggaagtgggg
420
gctgagagag cccctgaata cacggagccc cttggggggc tgcagcggag cctcaagatt
480
cgcattcagg tggcagggat ctacaagggc ttctgtctgg atgtgatcag gaataagtac
540
gaatgtgagc tgcagggagc caaacagcac ctggagagtg agaagctgct gctctatgac
600
acgctgcagg gggagctgca ggagcggatc cagaggctgg aggaggaccg ccagagcctg
660
gacctcagct ctgaatggtg ggacgacaaa ctgcacgcca gaggcagctc caggtcttgg
720
gactccctgc cgcccagcaa gaggaagaag gcacctctgg tttctggccc atacatcgtg
780
tacatgcttc aagagatcgg catcctggag gactggacag ccatcaaaaa ggctagggca
840
gctgtgtccc ctcaagagag aaaatcggat gacaggcgga cccacaggcc cctcagggtc
900

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tgcccagcca ggctcctgtg gtgctgctgg gccctccac tccatctggc actggcctgg  
 960  
 actcctcctc tgccctcctc gaggcctgca cagctgtggc cgtggagctg acctgaccag  
 1020  
 gcaaggtctg tgtctccatc cctgagccgc ctgccacctc ccactcctga agatccatct  
 1080  
 cttggggctc ccctgacaga gaagacagcc gaagtcaaag ccacatcctc ttgctgatgt  
 1140  
 tggatgcagg ctgtccggcc tcagggccag ggagccagtt tccactgtgc gggaaactctg  
 1200  
 agtcagacgt gattatctgg gggctctgtcc accctggctg gatctggagg caagatgcc  
 1260  
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 1380  
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 1388

<210> 3616

<211> 290

<212> PRT

<213> Homo sapiens

<400> 3616

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Pro | Val | Gln | Pro | Pro | Ser | Lys | Asp | Thr | Glu | Glu | Met | Glu | Ala | Glu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gly | Asp | Ser | Ala | Ala | Glu | Met | Asn | Gly | Glu | Glu | Glu | Glu | Ser | Glu | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Arg | Ser | Gly | Ser | Gln | Thr | Glu | Ser | Glu | Glu | Glu | Ser | Ser | Glu | Met |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asp | Asp | Glu | Asp | Tyr | Glu | Arg | Arg | Arg | Ser | Glu | Cys | Val | Ser | Glu | Met |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Asp | Leu | Glu | Lys | Gln | Phe | Ser | Glu | Leu | Lys | Glu | Lys | Leu | Phe | Arg |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Glu | Arg | Leu | Ser | Gln | Leu | Arg | Leu | Arg | Leu | Glu | Glu | Val | Gly | Ala | Glu |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Arg | Ala | Pro | Glu | Tyr | Thr | Glu | Pro | Leu | Gly | Gly | Leu | Gln | Arg | Ser | Leu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Lys | Ile | Arg | Ile | Gln | Val | Ala | Gly | Ile | Tyr | Lys | Gly | Phe | Cys | Leu | Asp |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Val | Ile | Arg | Asn | Lys | Tyr | Glu | Cys | Glu | Leu | Gln | Gly | Ala | Lys | Gln | His |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Leu | Glu | Ser | Glu | Lys | Leu | Leu | Leu | Tyr | Asp | Thr | Leu | Gln | Gly | Glu | Leu |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     | 160 |     |
| Gln | Glu | Arg | Ile | Gln | Arg | Leu | Glu | Glu | Asp | Arg | Gln | Ser | Leu | Asp | Leu |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Ser | Ser | Glu | Trp | Trp | Asp | Asp | Lys | Leu | His | Ala | Arg | Gly | Ser | Ser | Arg |
|     |     |     | 180 |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Ser | Trp | Asp | Ser | Leu | Pro | Pro | Ser | Lys | Arg | Lys | Lys | Ala | Pro | Leu | Val |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ser | Gly | Pro | Tyr | Ile | Val | Tyr | Met | Leu | Gln | Glu | Ile | Gly | Ile | Leu | Glu |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Asp | Trp | Thr | Ala | Ile | Lys | Lys | Ala | Arg | Ala | Ala | Val | Ser | Pro | Gln | Lys |

[illegible]

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<210> 3617
<211> 804
<212> DNA
<213> Homo sapiens
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120
aggatgggat ggtagtagtg aaggacatag gatgggggta gagtgtggag actttttgaa
180
atagtataga tgaatgccct gaggggactg tgaacaagct ctgcccctct taggaaatca
240
atggggaatc aactaaatta aataaaaaat ggggtcaaga ttaagaggca gggtcaccca
300
gggaatggtt taggtcctgg catctttgaa ggggttgaa gggctggcag gaggcactga
360
gggccctggg ccctgggcca ggtggtgaat tacagcgact cacggacagc agaagagatc
420
tgtgagagca gctccaagat gatcaccttc atcgacctgg caggccacca taagtaccta
480
cacaccacca tctttggcct cacatcatac tgccccgact gcgccttgct cctcgctcagt
540
gccaacactg ggattgctgg caccacaagg gaacatctgg ggctggccct ggccctgaaa
600
gtgcccttct tcatcgtggt cagcaagatc gacctatgtg ccaagaccac agtggagagg
660
acagtacgcc agctggagcg ggtcctcaag cagcctggct gccacaaggc ccccatgctg
720
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780
acccccatct tcacattgtc cagt
804

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<210> 3618
<211> 148
<212> PRT
<213> Homo sapiens
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<400> 3618  
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Ala Glu Glu Ile Cys Glu Ser Ser Ser Lys Met Ile Thr Phe Ile Asp

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                20                25                30
Leu Ala Gly His His Lys Tyr Leu His Thr Thr Ile Phe Gly Leu Thr
                35                40                45
Ser Tyr Cys Pro Asp Cys Ala Leu Leu Leu Val Ser Ala Asn Thr Gly
                50                55                60
Ile Ala Gly Thr Thr Arg Glu His Leu Gly Leu Ala Leu Ala Leu Lys
65                70                75                80
Val Pro Phe Phe Ile Val Val Ser Lys Ile Asp Leu Cys Ala Lys Thr
                85                90                95
Thr Val Glu Arg Thr Val Arg Gln Leu Glu Arg Val Leu Lys Gln Pro
                100                105                110
Gly Cys His Lys Val Pro Met Leu Val Thr Ser Glu Asp Asp Ala Val
                115                120                125
Thr Ala Ala Gln Gln Phe Ala Gln Ser Pro Asn Val Thr Pro Ile Phe
                130                135                140
Thr Leu Ser Ser
145

```

&lt;210&gt; 3619

&lt;211&gt; 948

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3619

```

acgcgtcggc agaggtggct tcgtcccgcg gagtccaggc ttcagctcct ggcttctctt
60
ctttcctcct agagatcaga tgcggaact ccagctgagg gcatgtctta ctgggcacgc
120
aggtgtcctc tcttgagaag aactgtccat accatgggtg tggttaaggct ttcaccagtt
180
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240
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300
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360
ccacactgga ggaggagctg gccctcagcc gacaggccac agagccagcc ccagcactga
420
ggatcgacta cccgaaggca ctgcagatcc tgatggaggg cggcacacac atggtgtgca
480
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660
tcaacttcgt ggagctgcct gctgctgccc tgcgcttcat gcccaagccg gtgttcgtgc
720
cagacgtggc cctcatcgcc aaccgcttca accccgacaa cctcatgcac gtctttcatg
780
acgacctgct gccactcttc tacaccctgc ggcagtttcc cggcctggcc cagcaggcac
840
ggctcttctt catggagggc tggggcgagg gtgcacactt cgacctctac aagctgctca
900

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948

<210> 3620

<211> 159

<212> PRT

<213> Homo sapiens

<400> 3620

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Arg | Ala | Ala | His | Thr | Trp | Cys | Ala | Arg | Ala | Ala | Arg | Thr | Gln | Thr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Ser | Ala | Ala | Ser | Ser | Gly | Ser | Ala | Thr | Pro | Thr | Arg | Leu | Arg | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Ser | Ser | Ser | Met | Ala | Thr | Pro | Leu | Ser | Cys | Cys | Pro | Thr | Trp | Ala |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Pro | Gly | Ala | Ser | Ser | Gln | Pro | Cys | Ser | Thr | Tyr | Pro | Pro | Trp | Arg | Thr |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Thr | Thr | Leu | Ser | Thr | Ser | Thr | Ser | Trp | Ser | Cys | Leu | Leu | Leu | Pro | Cys |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ala | Ser | Cys | Pro | Ser | Arg | Cys | Ser | Cys | Gln | Thr | Trp | Pro | Ser | Ser | Pro |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Thr | Ala | Ser | Thr | Pro | Thr | Thr | Ser | Cys | Thr | Ser | Phe | Met | Thr | Thr | Cys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Cys | His | Ser | Ser | Thr | Pro | Cys | Gly | Ser | Phe | Pro | Ala | Trp | Pro | Thr | Arg |
|     | 115 |     |     |     |     |     | 120 |     |     |     | 125 |     |     |     |     |
| His | Gly | Ser | Ser | Ser | Trp | Arg | Ala | Gly | Ala | Arg | Val | His | Thr | Ser | Thr |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ser | Thr | Ser | Cys | Ser | Ala | Pro | Ser | Ser | Leu | Ser | Cys | Gly | His | Ser |     |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     |     |

<210> 3621

<211> 2934

<212> DNA

<213> Homo sapiens

<400> 3621

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180  
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540

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 2934

&lt;210&gt; 3622

&lt;211&gt; 228

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3622

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Tyr | Val | Phe | Val | Asn | Asp | Ser | Ser | Gln | Thr | Asn | Val | Pro | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Gln | Ala | Cys | Ile | Asp | Gly | Asp | Phe | Asn | Tyr | Ser | Lys | Arg | Leu | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Ser | Gly | Phe | Asp | Pro | Asn | Ile | Arg | Asp | Ser | Arg | Gly | Arg | Thr | Gly |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu | His | Leu | Ala | Ala | Ala | Arg | Gly | Asn | Val | Asp | Ile | Cys | Gln | Leu | Leu |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| His | Lys | Phe | Gly | Ala | Asp | Leu | Leu | Ala | Thr | Asp | Tyr | Gln | Gly | Asn | Thr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ala | Leu | His | Leu | Cys | Gly | His | Val | Asp | Thr | Ile | Gln | Phe | Leu | Val | Ser |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Asn | Gly | Leu | Lys | Ile | Asp | Ile | Cys | Asn | His | Gln | Gly | Ala | Thr | Pro | Leu |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Val | Leu | Ala | Lys | Arg | Arg | Gly | Val | Asn | Lys | Asp | Val | Ile | Arg | Leu | Leu |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Glu | Ser | Leu | Glu | Glu | Gln | Glu | Val | Lys | Gly | Phe | Asn | Arg | Gly | Thr | His |
|     |     | 130 |     |     |     | 135 |     |     |     | 140 |     |     |     |     |     |
| Ser | Lys | Leu | Glu | Thr | Met | Gln | Thr | Ala | Glu | Ser | Glu | Ser | Ala | Met | Glu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Ser | His | Ser | Leu | Leu | Asn | Pro | Asn | Leu | Gln | Gln | Gly | Glu | Gly | Val | Leu |

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                165                170                175
Ser Ser Phe Arg Thr Thr Trp Gln Glu Phe Val Glu Asp Leu Gly Phe
                180                185                190
Trp Arg Val Leu Leu Leu Ile Phe Val Ile Ala Leu Leu Ser Leu Gly
                195                200                205
Ile Ala Tyr Tyr Val Ser Gly Val Leu Pro Phe Val Glu Asn Gln Pro
                210                215                220
Glu Leu Val His
225

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&lt;210&gt; 3623

&lt;211&gt; 586

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3623

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180
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240
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300
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480
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586

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&lt;210&gt; 3624

&lt;211&gt; 159

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3624

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Met Gly Leu Leu Gly Leu Tyr Asn Leu Gln Tyr Phe Ala Glu Arg Asp
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Ala Thr Ala Ala Gln Gln Val Leu Ser Asp Ser Leu His Pro Lys Cys
          20          25          30
Arg Asp Ile Thr Lys Glu Glu Ile Ser Lys Phe Ser Lys Ala Glu Trp
          35          40          45
Glu Lys Lys Arg Met Asp Lys Ala Ile Gly Tyr Ser Phe Ala Ile Val
          50          55          60
Gly Ile Asn Ile Thr Asp Leu Ala Tyr Asn Leu Leu Val Ser Gly Ala
          65          70          75          80
Leu Lys Thr His Phe Tyr Asn Ile Ala Pro Glu Ala Pro Thr Leu Ser

```

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |  |  |
| His | Phe | Gln | Gln | Thr | Phe | Cys | Tyr | Leu | Met | His | Glu | Phe | His | Lys | Phe |  |  |  |  |
|     |     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |  |  |  |  |
| Trp | Ile | Glu | Glu | Asp | Pro | Met | Asp | Ile | Met | Glu | Phe | Asn | Arg | Val | Arg |  |  |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |  |  |
| Glu | Lys | Phe | Arg | Lys | Arg | Ile | Ile | Lys | Gln | Leu | Gln | Asn | Pro | Asp | Met |  |  |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |  |  |
| Ala | Leu | Cys | Pro | His | Phe | Ala | Ala | Ser | Glu | Gly | Leu | Ile | Asn | Met |     |  |  |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     |     |  |  |  |  |

&lt;210&gt; 3625

&lt;211&gt; 4799

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3625

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1140

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 4740  
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<210> 3626

<211> 551

<212> PRT

<213> Homo sapiens

<400> 3626

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Thr | Ser | Ser | Leu | Arg | Arg | Gln | Met | Lys | Asn | Ile | Val | His | Asn |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Tyr | Ser | Glu | Ala | Glu | Ile | Lys | Val | Arg | Glu | Ala | Thr | Ser | Asn | Asp | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Trp | Gly | Pro | Ser | Ser | Ser | Leu | Met | Ser | Glu | Ile | Ala | Asp | Leu | Thr | Tyr |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asn | Val | Val | Ala | Phe | Ser | Glu | Ile | Met | Ser | Met | Ile | Trp | Lys | Arg | Leu |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asn | Asp | His | Gly | Lys | Asn | Trp | Arg | His | Val | Tyr | Lys | Ala | Met | Thr | Leu |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Met | Glu | Tyr | Leu | Ile | Lys | Thr | Gly | Ser | Glu | Arg | Val | Ser | Gln | Gln | Cys |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Lys | Glu | Asn | Met | Tyr | Ala | Val | Gln | Thr | Leu | Lys | Asp | Phe | Gln | Tyr | Val |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Asp | Arg | Asp | Gly | Lys | Asp | Gln | Gly | Val | Asn | Val | Arg | Glu | Lys | Ala | Lys |
|     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Gln | Leu | Val | Ala | Leu | Leu | Arg | Asp | Glu | Asp | Arg | Leu | Arg | Glu | Glu | Arg |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ala | His | Ala | Leu | Lys | Thr | Lys | Glu | Lys | Leu | Ala | Gln | Thr | Ala | Thr | Ala |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Ser | Ser | Ala | Ala | Val | Gly | Ser | Gly | Pro | Pro | Pro | Glu | Ala | Glu | Gln | Ala |
|     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Trp | Pro | Gln | Ser | Ser | Gly | Glu | Glu | Glu | Leu | Gln | Leu | Gln | Leu | Ala | Leu |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ala | Met | Ser | Lys | Glu | Glu | Ala | Asp | Gln | Glu | Glu | Arg | Ile | Arg | Arg | Gly |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Asp | Asp | Leu | Arg | Leu | Gln | Met | Ala | Ile | Glu | Glu | Ser | Lys | Arg | Glu | Thr |
|     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |
| Gly | Gly | Lys | Glu | Glu | Ser | Leu | Met | Asp | Leu | Ala | Asp | Val | Phe | Thr |     |
| 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |     |
| Ala | Pro | Ala | Pro | Ala | Pro | Thr | Thr | Asp | Pro | Trp | Gly | Gly | Pro | Ala | Pro |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |
| Met | Ala | Ala | Ala | Val | Pro | Thr | Ala | Ala | Pro | Thr | Ser | Asp | Pro | Trp | Gly |

260 265 270  
 Gly Pro Pro Val Pro Pro Ala Ala Asp Pro Trp Gly Gly Pro Ala Pro  
 275 280 285  
 Thr Pro Ala Ser Gly Asp Pro Trp Arg Pro Ala Ala Pro Ala Gly Pro  
 290 295 300  
 Ser Val Asp Pro Trp Gly Gly Thr Pro Ala Pro Ala Ala Gly Glu Gly  
 305 310 315 320  
 Pro Thr Pro Asp Pro Trp Gly Ser Ser Asp Gly Gly Val Pro Val Ser  
 325 330 335  
 Gly Pro Ser Ala Ser Asp Pro Trp Thr Pro Ala Pro Ala Phe Ser Asp  
 340 345 350  
 Pro Trp Gly Gly Ser Pro Ala Lys Pro Ser Thr Asn Gly Thr Thr Thr  
 355 360 365  
 Ala Gly Gly Phe Asp Thr Glu Pro Asp Glu Phe Ser Asp Phe Asp Arg  
 370 375 380  
 Leu Arg Thr Ala Leu Pro Thr Ser Gly Ser Ser Ala Gly Glu Leu Glu  
 385 390 395 400  
 Leu Leu Ala Gly Glu Val Pro Ala Arg Ser Pro Gly Ala Phe Asp Met  
 405 410 415  
 Ser Gly Val Arg Gly Ser Leu Ala Glu Ala Val Gly Ser Pro Pro Pro  
 420 425 430  
 Ala Ala Thr Pro Thr Pro Thr Pro Thr Arg Lys Thr Pro Glu Ser  
 435 440 445  
 Phe Leu Gly Pro Asn Ala Ala Leu Val Asp Leu Asp Ser Leu Val Ser  
 450 455 460  
 Arg Pro Gly Pro Thr Pro Pro Gly Ala Lys Ala Ser Asn Pro Phe Leu  
 465 470 475 480  
 Pro Gly Gly Gly Pro Ala Thr Gly Pro Ser Val Thr Asn Pro Phe Gln  
 485 490 495  
 Pro Ala Pro Pro Ala Thr Leu Thr Leu Asn Gln Leu Arg Leu Ser Pro  
 500 505 510  
 Val Pro Pro Val Pro Gly Ala Pro Pro Thr Tyr Ile Ser Pro Leu Gly  
 515 520 525  
 Gly Gly Pro Gly Leu Pro Pro Met Met Pro Pro Gly Pro Pro Ala Pro  
 530 535 540  
 Asn Thr Asn Pro Phe Leu Leu  
 545 550

&lt;210&gt; 3627

&lt;211&gt; 1760

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3627

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 60  
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 120  
 aaaccaaaca tcataaattt tgacaccagt ctgccgacat cacatacata cctaggtgct  
 180  
 gatatggaag aatttcattg caggactttg cacgatgacg acagctgtca ggtgattcca  
 240  
 gttcttcac aagtgatgat gacctgatt cccggacaga cattaacctt tcagcttttt  
 300

cacctcaag aagtcagtat ggtgcggaat ttaattcaga aagatagaac ctttgctgtt  
360  
cttgcataca gcaatgtaca ggaaagggaa gcacagtttg gaacaacagc agagatatat  
420  
gcctatcgag aagaacagga ttttggaatt gagatagtga aagtgaagc aattggaaga  
480  
caaagggttca aagtccttga gctaagaaca cagtcagatg gaatccagca agctaaagt  
540  
caaattcttc ccgaatgtgt gttgccttca accatgtctg cagttcaatt agaatccctc  
600  
aataagtgcc agatatttcc ttcaaacct gtctcaagag aagaccaatg ttcataataa  
660  
tggtggcaga aataccagaa gagaaagttt cattgtgcaa atctaacttc atggcctcgc  
720  
tggtgtgatt ccttatatga tgctgagacc ttaatggaca gaatcaagaa acagctacgt  
780  
gaatgggatg aaaatctaaa agatgattct ctcccttcaa atccaataga ttttcttac  
840  
agagtagctg cttgtcttcc tattgatgat gtattgagaa ttcagctcct taaaattggc  
900  
agtgttatcc agcgacttcg ctgtgaatta gacattatga ataaatgtac ttccctttgc  
960  
tgtaacaat gtcaagaaac agaaataaca accaaaaatg aaatattcag tttatcctta  
1020  
tgtggggcga tggcagctta tgtgaatcct catggatatg tgcagagac acttactgtg  
1080  
tataaggctt gcaacttgaa tctgatagcg cggccttcta cagaacacag ctggtttcc  
1140  
gggtatgcct ggactgttgc ccagtgtgaag atctgtgcaa gccatattgg atggaagttt  
1200  
acggccacca aaaaagacat gtcacctcaa aaattttggg gcttaacgcg atctgctctg  
1260  
ttgcccacga tcccagacac tgaagatgaa ataagtcag acaaagtaat actttgcttg  
1320  
taaacagatg tgatagagat aaagttagtt atctaacaaa ttgggtatat tctaagatct  
1380  
gctttggaat ttattgcctc tgatacatc ctaagtaaac ataacattaa tacctaagta  
1440  
aacataacat tacttggagg gttgcagttt ctaagtgaat ctgtatttga aacttttaag  
1500  
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1560  
gcttggtgcc attatcctgt ggaatctgat atgtctggta gcatgtcatt gatgggacat  
1620  
gaagacatct ttggaaatga tgagattatt tctgtatgc agtcatttct gaggccttct  
1680  
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1740  
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1760

&lt;210&gt; 3628

&lt;211&gt; 440

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3628

Gly Glu Gly Asp Gln Gln Asp Ala Ala His Asn Met Gly Asn His Leu  
 1 5 10 15  
 Pro Leu Leu Pro Ala Glu Ser Glu Glu Asp Glu Met Glu Val Glu  
 20 25 30  
 Asp Gln Asp Ser Lys Glu Ala Lys Lys Pro Asn Ile Ile Asn Phe Asp  
 35 40 45  
 Thr Ser Leu Pro Thr Ser His Thr Tyr Leu Gly Ala Asp Met Glu Glu  
 50 55 60  
 Phe His Gly Arg Thr Leu His Asp Asp Asp Ser Cys Gln Val Ile Pro  
 65 70 75 80  
 Val Leu Pro Gln Val Met Met Ile Leu Ile Pro Gly Gln Thr Leu Pro  
 85 90 95  
 Leu Gln Leu Phe His Pro Gln Glu Val Ser Met Val Arg Asn Leu Ile  
 100 105 110  
 Gln Lys Asp Arg Thr Phe Ala Val Leu Ala Tyr Ser Asn Val Gln Glu  
 115 120 125  
 Arg Glu Ala Gln Phe Gly Thr Thr Ala Glu Ile Tyr Ala Tyr Arg Glu  
 130 135 140  
 Glu Gln Asp Phe Gly Ile Glu Ile Val Lys Val Lys Ala Ile Gly Arg  
 145 150 155 160  
 Gln Arg Phe Lys Val Leu Glu Leu Arg Thr Gln Ser Asp Gly Ile Gln  
 165 170 175  
 Gln Ala Lys Val Gln Ile Leu Pro Glu Cys Val Leu Pro Ser Thr Met  
 180 185 190  
 Ser Ala Val Gln Leu Glu Ser Leu Asn Lys Cys Gln Ile Phe Pro Ser  
 195 200 205  
 Lys Pro Val Ser Arg Glu Asp Gln Cys Ser Tyr Lys Trp Trp Gln Lys  
 210 215 220  
 Tyr Gln Lys Arg Lys Phe His Cys Ala Asn Leu Thr Ser Trp Pro Arg  
 225 230 235 240  
 Trp Leu Tyr Ser Leu Tyr Asp Ala Glu Thr Leu Met Asp Arg Ile Lys  
 245 250 255  
 Lys Gln Leu Arg Glu Trp Asp Glu Asn Leu Lys Asp Asp Ser Leu Pro  
 260 265 270  
 Ser Asn Pro Ile Asp Phe Ser Tyr Arg Val Ala Ala Cys Leu Pro Ile  
 275 280 285  
 Asp Asp Val Leu Arg Ile Gln Leu Leu Lys Ile Gly Ser Ala Ile Gln  
 290 295 300  
 Arg Leu Arg Cys Glu Leu Asp Ile Met Asn Lys Cys Thr Ser Leu Cys  
 305 310 315 320  
 Cys Lys Gln Cys Gln Glu Thr Glu Ile Thr Thr Lys Asn Glu Ile Phe  
 325 330 335  
 Ser Leu Ser Leu Cys Gly Pro Met Ala Ala Tyr Val Asn Pro His Gly  
 340 345 350  
 Tyr Val His Glu Thr Leu Thr Val Tyr Lys Ala Cys Asn Leu Asn Leu  
 355 360 365  
 Ile Gly Arg Pro Ser Thr Glu His Ser Trp Phe Pro Gly Tyr Ala Trp  
 370 375 380  
 Thr Val Ala Gln Cys Lys Ile Cys Ala Ser His Ile Gly Trp Lys Phe  
 385 390 395 400  
 Thr Ala Thr Lys Lys Asp Met Ser Pro Gln Lys Phe Trp Gly Leu Thr

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                405                410                415
Arg Ser Ala Leu Leu Pro Thr Ile Pro Asp Thr Glu Asp Glu Ile Ser
                420                425                430
Pro Asp Lys Val Ile Leu Cys Leu
                435                440

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<210> 3629  
 <211> 695  
 <212> DNA  
 <213> Homo sapiens

<400> 3629  
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 120  
 acggcgtatg ccatgctgcc cttgggcatg cgggacgccg ccgtcgcggg cctcgctcc  
 180  
 tcactctcgc atctgctggt cctcgggctg tatcttgggc cacagccgga ctcacggcct  
 240  
 gcactgctgc cgcagttggc agcaaacgca gtgctgttcc tgtgcgggaa cgtggcagga  
 300  
 gtgtaccaca aggcgctgat ggagcgcgcc ctgcgggcca cgttccggga ggcactcagc  
 360  
 tccctgcact cagccggcg gctggacacc gagaagaagc accaggtcag ccgggcctag  
 420  
 gaaggtcaga gcagcgtcc gagggaggag ttgcttagat tacataacgg ggctcctcca  
 480  
 caagttgagt gactctgggc aggtttcttg acctgttct tcttttctat aaaatgtggg  
 540  
 tattgcccac cttagaaggt tgtgaggctc aaacaaacca aagcttataa aaagcacttt  
 600  
 agagcattat gatattaagt gaactcccat tcaggtgttg atactgggag tttagtcact  
 660  
 aaagtgatc agtgtaggat ggagtgtgg ggccc  
 695

<210> 3630  
 <211> 139  
 <212> PRT  
 <213> Homo sapiens

<400> 3630  
 Thr Arg Pro Leu Ser Gly Leu Val Trp Val Ala Leu Leu Ala Leu Gly  
 1 5 10 15  
 His Ala Phe Leu Phe Thr Gly Gly Val Val Ser Ala Trp Asp Gln Val  
 20 25 30  
 Ser Tyr Phe Leu Phe Val Ile Phe Thr Ala Tyr Ala Met Leu Pro Leu  
 35 40 45  
 Gly Met Arg Asp Ala Ala Val Ala Gly Leu Ala Ser Ser Leu Ser His  
 50 55 60  
 Leu Leu Val Leu Gly Leu Tyr Leu Gly Pro Gln Pro Asp Ser Arg Pro  
 65 70 75 80  
 Ala Leu Leu Pro Gln Leu Ala Ala Asn Ala Val Leu Phe Leu Cys Gly

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<400> 3632
Met Gln Tyr Leu Glu Lys Arg Lys Asn Pro Val Cys His Phe Val Thr
  1                      5                      10                      15
Pro Leu Asp Gly Ser Val Asp Val Asp Glu His Arg Arg Pro Glu Ala

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20 25 30  
 Ile Thr Thr Glu Gly Lys Tyr Trp Lys Ser Arg Ile Glu Ile Val Ile  
 35 40 45  
 Arg Glu Tyr His Lys Trp Arg Thr Tyr Phe Lys Lys Arg Leu Gln Gln  
 50 55 60  
 His Lys Asp Glu Asp Leu Ser Ser Leu Val Gln Asp Asp Met Leu  
 65 70 75 80  
 Tyr Trp His Lys His Gly Asp Gly Trp Lys Thr Pro Val Pro Met Glu  
 85 90 95  
 Glu Asp Pro Leu Leu Asp Thr Asp Met Leu Met Ser Glu Phe Ser Asp  
 100 105 110  
 Thr Leu Phe Ser Thr Leu Ser Ser His Gln Pro Val Ala Trp Pro Asn  
 115 120 125  
 Pro Arg Glu Ile Ala His Leu Gly Asn Ala Asp Met Ile Gln Pro Gly  
 130 135 140  
 Leu Ile Pro Leu Gln Pro Asn Leu Asp Phe Met Asp Thr Phe Glu Pro  
 145 150 155 160  
 Phe Gln Asp Leu Phe Ser Ser Ser Arg Ser Ile Phe Gly Ser Met Leu  
 165 170 175  
 Pro Ala Ser Ala Ser Ala Pro Val Pro Asp Pro Asn Asn Pro Pro Ala  
 180 185 190  
 Gln Glu Ser Ile Leu Pro Thr Thr Ala Leu Pro Thr Val Ser Leu Pro  
 195 200 205  
 Asp Ser Leu Ile Ala Pro Pro Thr Ala Pro Ser Leu Ala Arg  
 210 215 220

&lt;210&gt; 3633

&lt;211&gt; 1570

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3633

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 120  
 aggagagcct gggcaagcat tcttaggttg atgctggggc ccagagtagc agtgagcatc  
 180  
 ctgtgtgaag atggcatttc tcaactgatta ttggaaaagc acaagagcca cgtgctggag  
 240  
 ccattgtcca gccttgccct ggaggagcag tgtctggcct tgtccctaga ttggtccact  
 300  
 gggaaaactg gaagggccgg ggaccagccc ttgaagatca tcagcagtga ctccacaggg  
 360  
 cagctccacc tcctgatggg gaatgagacg aggcccaggc tgcagaaagt ggctcatgg  
 420  
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 480  
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 540  
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 660

aacatgaagc agccgttggc agatacgcc gtgcaggggtg gggatatggag aatcaagtgg  
 720  
 caccctttcc accaccacct gtcctggcc gcctgcatgc acagtggctt taagatcctc  
 780  
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 840  
 cccgactcgc tgggtgatgg agccgactgg tcttggctgc tcttcogttc tctgcagcgg  
 900  
 gccccctcgt ggtcctttcc tagcaaccta ggaaccaaga cggcagacct gaaggggtgca  
 960  
 agcgagtgtc caacaccctg tcatgaatgc agagaggata acgatgggga gggccatgcc  
 1020  
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 1080  
 caggctacag cagccaccac acgtgactgt ggcgtgaacc cagaagaagc agactcagcc  
 1140  
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 1200  
 gggaactgag cttgaaatca tgaagcccct tcccacaagg aaaccaggag ggagactgag  
 1260  
 agtgagtgcc cgggaccacc tcatcagaga tgcttactgc agccctgcag gtgcctgtgc  
 1320  
 actgatggaa tccacagtgt agtcagaaaa gctgttgact tctcttaaat cagcttcctc  
 1380  
 gctgggcccc tgaaagtgga ctgggtgatt ctgtctggca gagagtgggg aaaagacgcg  
 1440  
 gtttcagct tgcagatttg ttaagtttct caggcagatt ttgactttca gcctttcata  
 1500  
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 1560  
 aaaaaaaaaa  
 1570

&lt;210&gt; 3634

&lt;211&gt; 277

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3634

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Val | Asn | Glu | Thr | Arg | Pro | Arg | Leu | Gln | Lys | Val | Ala | Ser | Trp | Gln |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Ala | His | Gln | Phe | Glu | Ala | Trp | Ile | Ala | Ala | Phe | Asn | Tyr | Trp | His | Pro |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Ile | Val | Tyr | Ser | Gly | Gly | Asp | Asp | Gly | Leu | Leu | Arg | Gly | Trp | Asp |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Thr | Arg | Val | Pro | Gly | Lys | Phe | Leu | Phe | Thr | Ser | Xaa | Lys | Thr | His | His |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Xaa | Gly | Val | Cys | Ser | Ile | Gln | Ser | Ser | Pro | His | Arg | Glu | His | Ile | Leu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ala | Thr | Gly | Ser | Tyr | Asp | Glu | His | Ile | Leu | Leu | Trp | Asp | Thr | Arg | Asn |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Met | Lys | Gln | Pro | Leu | Ala | Asp | Thr | Pro | Val | Gln | Gly | Gly | Val | Trp | Arg |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ile | Lys | Trp | His | Pro | Phe | His | His | His | Leu | Leu | Leu | Ala | Ala | Cys | Met |

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<400> 3635
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120
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180
cctctggcga tgcctcaagc tttgcctctg gcggcaggtc ccttgctcc aggggtccatc
240
gcaaactctta cagaactgca aggagtgata gttggacagc cagtactggg ccaagcacag
300
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360
cctgctcaga ccctcaatga cacgctggat gacatcatgg cagcagtcag tggaagagca
420
tctgcaatgt caaacactcc taccacagct attgctgcat ccatttccca acctcagact
480
ccaactccaa gtccctatcat ctctccttca gccatgcttc ctatctaccc tgccattgat
540
attgatgcac agactgagag taatcatgac acggcgctaa cacttgacctg tgctgggtggc
600
cacgaggaac tgggtacaaac actgctagag agaggagcta gtatagagca ccgagacaag
660
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720
ttgctggaca atggtgcaga cattgaagcc cagtctgaaa gaaccaagga cacaccactc
780

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tccttggtctt gttctggggg aagacaggag gtggtggagc tattgttagc tcgag  
835

<210> 3636  
<211> 278  
<212> PRT  
<213> Homo sapiens

<400> 3636  
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20 25 30  
Ala Arg Leu Gln Gln Val Asp Pro Val Leu Leu Lys Asp Glu Pro Gln  
35 40 45  
Gln Thr Ala Ala Gln Met Gly Cys Ala Pro Ile Gln Pro Leu Ala Met  
50 55 60  
Pro Gln Ala Leu Pro Leu Ala Ala Gly Pro Leu Pro Pro Gly Ser Ile  
65 70 75 80  
Ala Asn Leu Thr Glu Leu Gln Gly Val Ile Val Gly Gln Pro Val Leu  
85 90 95  
Gly Gln Ala Gln Leu Ala Gly Leu Gly Gln Gly Ile Leu Thr Glu Thr  
100 105 110  
Gln Gln Gly Leu Met Val Ala Ser Pro Ala Gln Thr Leu Asn Asp Thr  
115 120 125  
Leu Asp Asp Ile Met Ala Ala Val Ser Gly Arg Ala Ser Ala Met Ser  
130 135 140  
Asn Thr Pro Thr His Ser Ile Ala Ala Ser Ile Ser Gln Pro Gln Thr  
145 150 155 160  
Pro Thr Pro Ser Pro Ile Ile Ser Pro Ser Ala Met Leu Pro Ile Tyr  
165 170 175  
Pro Ala Ile Asp Ile Asp Ala Gln Thr Glu Ser Asn His Asp Thr Ala  
180 185 190  
Leu Thr Leu Ala Cys Ala Gly Gly His Glu Glu Leu Val Gln Thr Leu  
195 200 205  
Leu Glu Arg Gly Ala Ser Ile Glu His Arg Asp Lys Lys Gly Phe Thr  
210 215 220  
Pro Leu Ile Leu Ala Ala Thr Ala Gly His Val Gly Val Val Glu Ile  
225 230 235 240  
Leu Leu Asp Asn Gly Ala Asp Ile Glu Ala Gln Ser Glu Arg Thr Lys  
245 250 255  
Asp Thr Pro Leu Ser Leu Ala Cys Ser Gly Gly Arg Gln Glu Val Val  
260 265 270  
Glu Leu Leu Leu Ala Arg  
275

<210> 3637  
<211> 2128  
<212> DNA  
<213> Homo sapiens

<400> 3637  
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120  
cctgccaaacc cctgctcttc caggtcgggc cccgggggttc tgcggctggt agggacagag  
180  
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<211> 200

<212> PRT

<213> Homo sapiens

<400> 3638

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| Met | Ala | Ser | Ser | Leu | Thr | Cys | Thr | Gly | Val | Ile | Trp | Ala | Leu | Leu | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Phe | Leu | Cys | Ala | Ala | Thr | Ser | Cys | Val | Gly | Phe | Phe | Met | Pro | Tyr | Trp |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Trp | Gly | Ser | Gln | Leu | Gly | Lys | Pro | Val | Ser | Phe | Gly | Thr | Phe | Arg |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Arg | Cys | Ser | Tyr | Pro | Val | His | Asp | Glu | Ser | Arg | Gln | Met | Met | Val | Met |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Val | Glu | Glu | Cys | Gly | Arg | Tyr | Ala | Ser | Phe | Gln | Gly | Ile | Pro | Ser | Ala |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Glu | Trp | Arg | Ile | Cys | Thr | Ile | Val | Thr | Gly | Leu | Gly | Cys | Gly | Leu | Leu |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Leu | Leu | Val | Ala | Leu | Thr | Ala | Leu | Met | Gly | Cys | Cys | Val | Ser | Asp | Leu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ile | Ser | Arg | Thr | Val | Gly | Arg | Val | Ala | Gly | Gly | Ile | Gln | Phe | Leu | Gly |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Gly | Leu | Leu | Ile | Gly | Ala | Gly | Cys | Ala | Leu | Tyr | Pro | Leu | Gly | Trp | Asp |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ser | Glu | Glu | Val | Arg | Gln | Thr | Cys | Gly | Tyr | Thr | Ser | Gly | Gln | Phe | Asp |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Leu | Gly | Lys | Cys | Glu | Ile | Gly | Trp | Ala | Tyr | Tyr | Cys | Thr | Gly | Ala | Gly |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Ala | Thr | Ala | Ala | Met | Leu | Leu | Cys | Thr | Trp | Leu | Ala | Cys | Phe | Ser | Gly |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |
| Lys | Lys | Gln | Lys | His | Tyr | Pro | Tyr |     |     |     |     |     |     |     |     |
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<211> 726

<212> DNA

<213> Homo sapiens

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 Val Tyr Gly Asp Asp Thr Leu Arg Pro Cys Trp Cys Trp Lys Asn His  
 50 55 60  
 Leu Trp Gln Cys His Phe Leu Arg Lys Thr Tyr Gln Ser Phe Ala Met  
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 Pro Leu Glu Arg Arg Ser Gly Arg Gly Ala Arg Asp Ala Arg Ala Leu  
 50 55 60  
 Thr Ser Trp Ala Pro Val Arg Gly Glu Val Arg Lys Lys Thr Pro Ser  
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 Glu Val Thr Val Pro Thr Arg Val Asp Ser Pro Arg Pro Asp His Ala  
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 Arg Arg Trp Pro Lys Gly Arg Gly Trp Gly Arg Gly Cys Ser Ala Pro  
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 Ser Ser Arg Ala Ala Ser Leu Gln Val Phe Ala Leu Ala Arg Arg Ser  
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&lt;210&gt; 3644

&lt;211&gt; 560

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3644

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Leu | His | Glu | Glu | Gly | Leu | Arg | Lys | Phe | Ser | Glu | Tyr | Leu | Cys | Lys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gln | Val | Ala | Ser | Lys | Ala | Glu | Glu | Asn | Leu | Leu | Met | Val | Leu | Gly | Thr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asp | Met | Ser | Asp | Arg | Arg | Ala | Ala | Val | Ile | Phe | Ala | Asp | Thr | Leu | Thr |
|     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Leu | Leu | Phe | Glu | Gly | Ile | Ala | Arg | Ile | Val | Glu | Thr | His | Gln | Pro | Ile |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Val | Glu | Thr | Tyr | Tyr | Gly | Pro | Gly | Arg | Leu | Tyr | Thr | Leu | Ile | Lys | Tyr |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |     |
| Leu | Gln | Val | Glu | Cys | Asp | Arg | Gln | Val | Glu | Lys | Val | Val | Asp | Lys | Phe |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Ile | Lys | Gln | Arg | Asp | Tyr | His | Gln | Gln | Phe | Arg | His | Val | Gln | Asn | Asn |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu | Met | Arg | Asn | Ser | Thr | Thr | Glu | Lys | Ile | Glu | Pro | Arg | Glu | Leu | Asp |
|     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Pro | Ile | Leu | Thr | Glu | Val | Thr | Leu | Met | Asn | Ala | Arg | Ser | Glu | Leu | Tyr |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Leu | Arg | Phe | Leu | Lys | Lys | Arg | Ile | Ser | Ser | Asp | Phe | Glu | Val | Gly | Asp |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Ser | Met | Ala | Ser | Glu | Glu | Val | Lys | Gln | Glu | His | Gln | Lys | Cys | Leu | Asp |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Lys | Leu | Leu | Asn | Asn | Cys | Leu | Leu | Ser | Cys | Thr | Met | Gln | Glu | Leu | Ile |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Gly | Leu | Tyr | Val | Thr | Met | Glu | Glu | Tyr | Phe | Met | Arg | Glu | Thr | Val | Asn |
|     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Lys | Ala | Val | Ala | Leu | Asp | Thr | Tyr | Glu | Lys | Gly | Gln | Leu | Thr | Ser | Ser |

|   |     |     |
|---|-----|-----|
| 210   | 215 | 220 |
| Met Val Asp Asp Val Phe Tyr Ile Val Lys Lys Cys Ile Gly Arg Ala |     |     |
| 225   | 230 | 235 |
| Leu Ser Ser Ser Ser Ile Asp Cys Leu Cys Ala Met Ile Asn Leu Ala |     | 240 |
|   | 245 | 250 |
| Thr Thr Glu Leu Glu Ser Asp Phe Arg Asp Val Leu Cys Asn Lys Leu |     | 255 |
|   | 260 | 265 |
| Arg Met Gly Phe Pro Ala Thr Thr Phe Gln Asp Ile Gln Arg Gly Val |     | 270 |
|   | 275 | 280 |
| Thr Ser Ala Val Asn Ile Met His Ser Ser Leu Gln Gln Gly Lys Phe |     | 285 |
|   | 290 | 295 |
| Asp Thr Lys Gly Ile Glu Ser Thr Asp Glu Ala Lys Met Ser Phe Leu |     | 300 |
| 305   | 310 | 315 |
| Val Thr Leu Asn Asn Val Glu Val Cys Ser Glu Asn Ile Ser Thr Leu |     | 320 |
|   | 325 | 330 |
| Lys Lys Thr Leu Glu Ser Asp Cys Thr Lys Leu Phe Ser Gln Gly Ile |     | 335 |
|   | 340 | 345 |
| Gly Gly Glu Gln Ala Gln Ala Lys Phe Asp Ser Cys Leu Ser Asp Leu |     | 350 |
|   | 355 | 360 |
| Ala Ala Val Ser Asn Lys Phe Arg Asp Leu Leu Gln Glu Gly Leu Thr |     | 365 |
|   | 370 | 375 |
| Glu Leu Asn Ser Thr Ala Ile Lys Pro Gln Val Gln Pro Trp Ile Asn |     | 380 |
| 385   | 390 | 395 |
| Ser Phe Phe Ser Val Ser His Asn Ile Glu Glu Glu Glu Phe Asn Asp |     | 400 |
|   | 405 | 410 |
| Tyr Glu Ala Asn Asp Pro Trp Val Gln Gln Phe Ile Leu Asn Leu Glu |     | 415 |
|   | 420 | 425 |
| Gln Gln Met Ala Glu Phe Lys Ala Ser Leu Ser Pro Val Ile Tyr Asp |     | 430 |
|   | 435 | 440 |
| Ser Leu Thr Gly Leu Met Thr Ser Leu Val Ala Val Glu Leu Glu Lys |     | 445 |
|   | 450 | 455 |
| Val Val Leu Lys Ser Thr Phe Asn Arg Leu Gly Gly Leu Gln Phe Asp |     | 460 |
| 465   | 470 | 475 |
| Lys Glu Leu Arg Ser Leu Ile Ala Tyr Leu Thr Thr Val Thr Thr Trp |     | 480 |
|   | 485 | 490 |
| Thr Ile Arg Asp Lys Phe Ala Arg Leu Ser Gln Met Ala Thr Ile Leu |     | 495 |
|   | 500 | 505 |
| Asn Leu Glu Arg Val Thr Glu Ile Leu Asp Tyr Trp Gly Pro Asn Ser |     | 510 |
|   | 515 | 520 |
| Gly Pro Leu Thr Trp Arg Leu Thr Pro Ala Glu Val Arg Gln Val Leu |     | 525 |
|   | 530 | 535 |
| Ala Leu Arg Ile Asp Phe Arg Ser Glu Asp Ile Lys Arg Leu Arg Leu |     | 540 |
| 545   | 550 | 555 |
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&lt;210&gt; 3645

&lt;211&gt; 823

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3645

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<210> 3646

<211> 243

<212> PRT

<213> Homo sapiens

<400> 3646

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| Met | Asn | Gly | Pro | Thr | Ser | Asn | Phe | Ser | Ser | Lys | Glu | Ile | Gly | Phe | Gln |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Ala | Ala | Ala | Met | Leu | His | Leu | Phe | Asp | Pro | Thr | Leu | Glu | Pro | Val |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Thr | Glu | Pro | Pro | Ala | Asn | Leu | Asp | Arg | Leu | Ile | Pro | Met | Tyr | Lys | Gly |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Ala | Lys | Ile | Gln | Gly | Gly | Ile | Leu | Pro | Gly | Ser | Tyr | His | Tyr | Leu | His |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Ile | Ala | Lys | Pro | Ala | Ile | Pro | Thr | Pro | Leu | Glu | Val | Gln | Met | Ala | Gln |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Pro | Asn | Tyr | Gly | Leu | Glu | Leu | Val | Thr | Gly | Ser | Ala | Lys | Asn | Gly | Thr |
|     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Tyr | Phe | Arg | Ile | His | Ile | Asn | Lys | Tyr | Lys | Met | Val | Glu | Thr | Ile | Thr |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Cys | Leu | Ser | Arg | Glu | Pro | Phe | Pro | Ala | Ser | Asn | Tyr | Ile | Arg | Leu | Phe |
|     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Gly | Gln | His | Glu | Gln | Leu | Leu | Asn | Asn | Leu | Cys | Ala | Arg | Tyr | Asp | Glu |
|     | 130 |     |     |     |     | 135 |     |     |     | 140 |     |     |     |     |     |
| Asn | Leu | Ile | Thr | Asp | Leu | Tyr | Ser | Tyr | Phe | Thr | Glu | Pro | Trp | Cys | Leu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Ala | Leu | Phe | His | Asp | Arg | Phe | Ile | Asp | Leu | Arg | Lys | Glu | Leu | Arg | Gln |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Ile | Leu | Ala | Ser | Lys | Glu | Glu | Glu | Asp | Leu | Pro | Ser | Ile | Glu | Gln | Leu |

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<210> 3647
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<212> DNA
<213> Homo sapiens
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<212> PRT
<213> Homo sapiens
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<210> 3649  
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&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3649

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240
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300
gataatgaga cagatgtctc tcaactggaa ggacattttg acattgttat gtgtgctgac
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648

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&lt;210&gt; 3650

&lt;211&gt; 189

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3650

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Met Ile Leu Lys Ala Cys His Ser Cys Phe His Phe His Thr Asp Lys
1           5           10           15
His Ile Cys Ser Leu Phe Ala Val Leu Pro Phe Phe Phe Gln Val Ala
20           25           30
Ile Ser Ala Asp Val Lys Glu Val Leu Leu Thr Asp Gly Asn Glu Lys
35           40           45
Ala Ile Arg Asn Val Gln Asp Ile Ile Thr Arg Asn Gln Lys Ala Gly
50           55           60
Val Phe Lys Thr Gln Lys Ile Ser Ser Cys Val Leu Arg Trp Asp Asn
65           70           75           80
Glu Thr Asp Val Ser Gln Leu Glu Gly His Phe Asp Ile Val Met Cys
85           90           95
Ala Asp Cys Leu Phe Leu Asp Gln Tyr Arg Ala Ser Leu Val Asp Ala
100          105          110
Ile Lys Arg Leu Leu Gln Pro Arg Gly Lys Ala Met Val Phe Ala Pro
115          120          125
Arg Arg Gly Asn Thr Leu Asn Gln Phe Cys Asn Leu Ala Glu Lys Ala
130          135          140
Gly Phe Cys Ile Gln Arg His Glu Asn Tyr Asp Glu His Ile Ser Asn
145          150          155          160
Phe His Ser Lys Leu Lys Lys Glu Asn Pro Asp Ile Tyr Glu Glu Asn

```

|   |     |     |     |
|---|-----|-----|-----|
|   | 165 | 170 | 175 |
| Leu His Tyr Pro Pro Leu Leu Ile Leu Thr Lys His Gly |     |     |     |
|   | 180 | 185 |     |

<210> 3651  
 <211> 2469  
 <212> DNA  
 <213> Homo sapiens

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 1920  
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 1980  
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&lt;210&gt; 3652

&lt;211&gt; 384

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3652

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Ala | Val | Gln | Met | Asp | Pro | Glu | Leu | Ala | Lys | Arg | Leu | Phe | Phe |
| 1   |     |     | 5   |     |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Glu | Gly | Ala | Thr | Val | Val | Ile | Leu | Asn | Met | Pro | Lys | Gly | Thr | Glu | Phe |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Ile | Asp | Tyr | Asn | Ser | Trp | Glu | Val | Gly | Pro | Lys | Phe | Arg | Gly | Val |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Lys | Met | Ile | Pro | Pro | Gly | Ile | His | Phe | Leu | His | Tyr | Ser | Ser | Val | Asp |

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      50              55              60
Lys Ala Asn Pro Lys Glu Val Gly Pro Arg Met Gly Phe Phe Leu Ser
65              70              75              80
Leu His Gln Arg Gly Leu Thr Val Leu Arg Trp Ser Thr Leu Arg Glu
      85              90              95
Glu Val Asp Leu Ser Pro Ala Pro Glu Ser Glu Val Glu Ala Met Arg
      100              105              110
Ala Asn Leu Gln Glu Leu Asp Gln Phe Leu Gly Pro Tyr Pro Tyr Ala
      115              120              125
Thr Leu Lys Lys Trp Ile Ser Leu Thr Asn Phe Ile Ser Glu Ala Thr
      130              135              140
Val Glu Lys Leu Gln Pro Glu Asn Arg Gln Ile Cys Ala Phe Ser Asp
145              150              155              160
Val Leu Pro Val Leu Ser Met Lys His Thr Lys Asp Arg Val Gly Gln
      165              170              175
Asn Leu Pro Arg Cys Gly Ile Glu Cys Lys Ser Tyr Gln Glu Gly Leu
      180              185              190
Ala Arg Leu Pro Glu Met Lys Pro Arg Ala Gly Thr Glu Ile Arg Phe
      195              200              205
Ser Glu Leu Pro Thr Gln Met Phe Pro Glu Gly Ala Thr Pro Ala Glu
      210              215              220
Ile Thr Lys His Ser Met Asp Leu Ser Tyr Ala Leu Glu Thr Val Leu
225              230              235              240
Ile Lys Gln Phe Pro Ser Ser Pro Gln Asp Val Leu Gly Glu Leu Gln
      245              250              255
Phe Ala Phe Val Cys Phe Leu Leu Gly Asn Val Tyr Glu Ala Phe Glu
      260              265              270
His Trp Lys Arg Leu Leu His Leu Leu Cys Arg Ser Glu Ala Ala Met
      275              280              285
Met Lys His His Thr Leu Tyr Ile Asn Leu Met Ser Ile Leu Tyr His
      290              295              300
Gln Leu Gly Glu Ile Pro Ala Asp Phe Phe Val Asp Ile Val Ser Gln
305              310              315              320
Asp Asn Phe Leu Thr Ser Thr Leu Gln Val Phe Phe Ser Ser Ala Cys
      325              330              335
Ser Ile Ala Val Asp Ala Thr Leu Arg Lys Lys Ala Glu Lys Phe Gln
      340              345              350
Ala His Leu Thr Lys Lys Phe Arg Trp Asp Phe Ala Ala Glu Pro Glu
      355              360              365
Asp Cys Ala Pro Val Val Val Glu Leu Pro Glu Gly Ile Glu Met Gly
      370              375              380

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&lt;210&gt; 3653

&lt;211&gt; 283

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3653

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120

tcttctccac tggagatgct ccttcagctc agcaggacgc tagctcgaa ctcagactgc  
180

acattttttgc ggattgggag gagggccgac gccgtggccg gatagtctct ggagctgcct  
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<210> 3654

<211> 88

<212> PRT

<213> Homo sapiens

<400> 3654

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Pro | Gln | Ala | Ser | Pro | Gly | Ala | Trp | Arg | His | Trp | Arg | Lys | Cys | Ile |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Ile | Pro | Ile | Arg | Ala | Ser | Phe | Ala | Ala | Ala | Glu | Met | Glu | Arg | Cys | His |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gln | Ala | Val | Phe | Ser | Thr | Gly | Asp | Ala | Pro | Ser | Ala | Gln | Gln | Asp | Ala |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |
| Ser | Ser | Glu | Leu | Arg | Leu | His | Ile | Phe | Ala | Asp | Trp | Glu | Glu | Gly | Arg |
|     |     |     | 50  |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Arg | Arg | Gly | Arg | Ile | Val | Ser | Gly | Ala | Ala | Phe | Trp | Gly | Cys | Leu | Pro |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Val | Gly | Ile | Phe | Ser | Thr | Pro | Arg |     |     |     |     |     |     |     |     |
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<210> 3655

<211> 3477

<212> DNA

<213> Homo sapiens

<400> 3655

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<210> 3656

<211> 429

<212> PRT

<213> Homo sapiens

<400> 3656

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Ser | Leu | Lys | Glu | Leu | Ala | Pro | Thr | Gly | Arg | Ile | Met | Asn | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Cys | Met | Ala | Ser | Leu | Phe | Pro | Ala | Trp | Glu | Pro | Pro | Leu | Ile | Thr | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Lys | Ala | Gly | Thr | Gly | Ser | Met | Arg | Ser | Gly | Phe | Pro | Ala | Lys | Ser | Ala |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Met | Trp | Arg | Tyr | Arg | Gly | Thr | Pro | Phe | Ser | Lys | Ala | Val | Glu | His | Ile |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asn | Lys | Thr | Ile | Ala | Pro | Ala | Leu | Val | Ser | Lys | Lys | Leu | Asn | Val | Thr |

```

65              70              75              80
Glu Gln Glu Lys Ile Asp Lys Leu Met Ile Glu Met Asp Gly Thr Glu
                        85              90              95
Asn Lys Ser Lys Phe Gly Ala Asn Ala Ile Leu Gly Val Ser Leu Ala
                        100             105             110
Val Cys Lys Ala Gly Ala Val Glu Lys Gly Val Pro Leu Tyr Arg His
                        115             120             125
Ile Ala Asp Leu Ala Gly Asn Ser Glu Val Ile Leu Pro Val Pro Ala
                        130             135             140
Phe Asn Val Ile Asn Gly Gly Ser His Ala Gly Asn Lys Leu Ala Met
145                        150             155             160
Gln Glu Phe Met Ile Leu Pro Val Gly Ala Ala Asn Phe Arg Glu Ala
                        165             170             175
Met Arg Ile Gly Ala Glu Val Tyr His Asn Leu Lys Asn Val Ile Lys
                        180             185             190
Glu Lys Tyr Gly Lys Asp Ala Thr Asn Val Gly Asp Glu Gly Gly Phe
                        195             200             205
Ala Pro Asn Ile Leu Glu Asn Lys Glu Gly Leu Glu Leu Leu Lys Thr
                        210             215             220
Ala Ile Gly Lys Ala Gly Tyr Thr Asp Lys Val Val Ile Gly Met Asp
225                        230             235             240
Val Ala Ala Ser Glu Phe Phe Arg Ser Gly Lys Tyr Asp Leu Asp Phe
                        245             250             255
Lys Ser Pro Asp Asp Pro Ser Arg Tyr Ile Ser Pro Asp Gln Leu Ala
                        260             265             270
Asp Leu Tyr Lys Ser Phe Ile Lys Asp Tyr Pro Val Val Ser Ile Glu
                        275             280             285
Asp Pro Phe Asp Gln Asp Asp Trp Gly Ala Trp Gln Lys Phe Thr Ala
                        290             295             300
Ser Ala Gly Ile Gln Val Val Gly Asp Asp Leu Thr Val Thr Asn Pro
305                        310             315             320
Lys Arg Ile Ala Gln Ala Val Asn Glu Lys Ser Cys Asn Cys Leu Leu
                        325             330             335
Leu Lys Val Asn Gln Ile Gly Ser Val Thr Glu Ser Leu Gln Ala Cys
                        340             345             350
Lys Leu Ala Gln Ala Asn Gly Trp Gly Val Met Val Ser His Arg Ser
                        355             360             365
Gly Glu Thr Glu Asp Thr Phe Ile Ala Asp Leu Val Val Gly Leu Cys
                        370             375             380
Thr Gly Gln Ile Lys Thr Gly Ala Pro Cys Arg Ser Glu Arg Leu Ala
385                        390             395             400
Lys Tyr Asn Gln Leu Leu Arg Ile Glu Glu Glu Leu Gly Ser Lys Ala
                        405             410             415
Lys Phe Ala Gly Arg Asn Phe Arg Asn Pro Leu Ala Lys
                        420             425

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&lt;210&gt; 3657

&lt;211&gt; 337

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3657

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60

cagctcaagg cgtacacgtg cagggtgtgtt acgtgttcat tttcgactca aggcgtacac  
 120  
 gtgcagatgt gtcacatgtt catttttcggc tcaaggcgta cacgtgcagg tgtgttacgt  
 180  
 gttcattttc ggctcaaggc ttacacgtgc aggtgtgcca catgttcatt ttcggctcaa  
 240  
 ggcgtacatg tgcaggtgtg ttacatgttc attgtcagct caacgcgtac acgtgcagggt  
 300  
 gtgccacatg ttcattttcg gttcaaggcg tacgcgt  
 337

<210> 3658

<211> 99

<212> PRT

<213> Homo sapiens

<400> 3658

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Cys | His | Met | Phe | Ile | Phe | Ser | Ser | Arg | Arg | Thr | Arg | Ala | Gly | Val |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Arg | Val | His | Phe | Arg | Leu | Lys | Ala | Tyr | Thr | Cys | Arg | Cys | Val | Thr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Cys | Ser | Phe | Ser | Ala | Gln | Gly | Val | His | Val | Gln | Val | Cys | Tyr | Val | Phe |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Ile | Phe | Gly | Ser | Arg | Leu | Thr | Arg | Ala | Gly | Val | Pro | His | Val | His | Phe |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Arg | Leu | Lys | Ala | Tyr | Met | Cys | Arg | Cys | Val | Thr | Cys | Ser | Leu | Ser | Ala |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Gln | Arg | Val | His | Val | Gln | Val | Cys | His | Met | Phe | Ile | Phe | Gly | Ser | Arg |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |

Arg Thr Arg

<210> 3659

<211> 1025

<212> DNA

<213> Homo sapiens

<400> 3659

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 120  
 gttgaaaata agacggccca gatattaaat cttcagcaac atttatctgc ccttgaaaaa  
 180  
 gatattaaac acaatgagga acttcttaaa aggtgccaac tacattataa agaactaaag  
 240  
 atgaaaataa gaaaaaatat ttctgaaatt cgggaacttg agaacataga agaacaccag  
 300  
 tctgtagata ttgcaacttt ggaagatgaa gctcaggaaa ataaaagcaa aatgaaaatg  
 360  
 gttgaggaac atatggagca acaaaaagaa aatatggagc atcttaaaag tctgaaaata  
 420  
 gaagcagaaa ataagtatga tgcaattaaa ttcaaaatta atcaactatc ggagctagca  
 480

gaccacactta aggatgaatt aaaccttgct gattctgaag tggataacca aaaacgaggg  
 540  
 aaacgacatt atgaaaaaaaa acaaaaagaa cacttggata ccttaaataa aaagaaacga  
 600  
 gaactggata tgaaagagaa agaactagag gagaaaatgt cacaagcaag acaaatctgc  
 660  
 ccagagcgta tagaagtaga aaaatctgca tcaattctgg acaagaaat taatcgatta  
 720  
 aggcagaaga tacaggcaga acatgctagt catggagatc gagaggaaat aatgaggcag  
 780  
 taccaagaag caagagagac ctatcttgat ctggatagta aagtgaggac tttaaaaaag  
 840  
 tttattaaat tactgggaga aatcatggag cacagattca agacatatca acaatttaga  
 900  
 aggtgtttga ctttacgatg caaattatac tttgacaact tactatctca gcgggcctat  
 960  
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 gaaaa  
 1025

<210> 3660

<211> 341

<212> PRT

<213> Homo sapiens

<400> 3660

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Ala | Phe | Thr | Ala | Asp | Gly | Asp | Gln | Val | Phe | Ala | Gly | Arg | Tyr | Tyr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Ser | Glu | Asn | Thr | Arg | Pro | Lys | Phe | Leu | Ser | Arg | Asp | Val | Asp | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Ile | Ser | Asp | Leu | Glu | Asn | Glu | Val | Glu | Asn | Lys | Thr | Ala | Gln | Ile |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Leu | Asn | Leu | Gln | Gln | His | Leu | Ser | Ala | Leu | Glu | Lys | Asp | Ile | Lys | His |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Asn | Glu | Glu | Leu | Leu | Lys | Arg | Cys | Gln | Leu | His | Tyr | Lys | Glu | Leu | Lys |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Met | Lys | Ile | Arg | Lys | Asn | Ile | Ser | Glu | Ile | Arg | Glu | Leu | Glu | Asn | Ile |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Glu | Glu | His | Gln | Ser | Val | Asp | Ile | Ala | Thr | Leu | Glu | Asp | Glu | Ala | Gln |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Glu | Asn | Lys | Ser | Lys | Met | Lys | Met | Val | Glu | Glu | His | Met | Glu | Gln | Gln |
|     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Lys | Glu | Asn | Met | Glu | His | Leu | Lys | Ser | Leu | Lys | Ile | Glu | Ala | Glu | Asn |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Lys | Tyr | Asp | Ala | Ile | Lys | Phe | Lys | Ile | Asn | Gln | Leu | Ser | Glu | Leu | Ala |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Asp | Pro | Leu | Lys | Asp | Glu | Leu | Asn | Leu | Ala | Asp | Ser | Glu | Val | Asp | Asn |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Gln | Lys | Arg | Gly | Lys | Arg | His | Tyr | Glu | Lys | Lys | Gln | Lys | Glu | His | Leu |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |
| Asp | Thr | Leu | Asn | Lys | Lys | Lys | Arg | Glu | Leu | Asp | Met | Lys | Glu | Lys | Glu |
|     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Leu | Glu | Glu | Lys | Met | Ser | Gln | Ala | Arg | Gln | Ile | Cys | Pro | Glu | Arg | Ile |

|   |     |     |
|---|-----|-----|
| 210   | 215 | 220 |
| Glu Val Glu Lys Ser Ala Ser Ile Leu Asp Lys Glu Ile Asn Arg Leu |     |     |
| 225   | 230 | 235 |
| Arg Gln Lys Ile Gln Ala Glu His Ala Ser His Gly Asp Arg Glu Glu |     | 240 |
|   | 245 | 250 |
| Ile Met Arg Gln Tyr Gln Glu Ala Arg Glu Thr Tyr Leu Asp Leu Asp |     | 255 |
|   | 260 | 265 |
| Ser Lys Val Arg Thr Leu Lys Lys Phe Ile Lys Leu Leu Gly Glu Ile |     | 270 |
|   | 275 | 280 |
| Met Glu His Arg Phe Lys Thr Tyr Gln Gln Phe Arg Arg Cys Leu Thr |     | 285 |
|   | 290 | 295 |
| Leu Arg Cys Lys Leu Tyr Phe Asp Asn Leu Leu Ser Gln Arg Ala Tyr |     | 300 |
| 305   | 310 | 315 |
| Cys Gly Lys Met Asn Phe Asp His Lys Asn Glu Thr Leu Ser Ile Ser |     | 320 |
|   | 325 | 330 |
| Val Gln Pro Gly Glu   |     | 335 |
|   | 340 |     |

&lt;210&gt; 3661

&lt;211&gt; 1117

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3661

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 60  
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 120  
 ttagatccta gaatgtgect tttcacaatg gcttcgtttc caattttcac tgttatttgg  
 180  
 caaaggggtg caacattact atttgtggag gttcccgga gagcagggtt tgcaatgtag  
 240  
 gtttcaattt tgctggtttc ttcagcaata tttgtggtt tgctcagtga tctccagga  
 300  
 tcagcaacat agtttgactc ctccggtatt tctccctgg tatgtgatgt agttttcttt  
 360  
 ttctccttaa tgcttttggg tctgcttgca aacctacca ctttatctgg ctggggtta  
 420  
 ctgtcatctt tcagggactg actgacagct gggctctgaa aggctctgtg gttgctgctg  
 480  
 gtcattggcag caatggcatt gctgtgcatg atcaccgatg aaaactggct gctgtgtaca  
 540  
 atgaccgagg gtgcagagcc actgtagctg atcacagagg cggcattctc actgctatta  
 600  
 ctcaaagata aaacaggtac atccctgcc cggaggtcag aactgacage attttcagt  
 660  
 gaagaaactg acacctcagt tgaataaaag ttattgtcaa gatccatttt caatgcctcc  
 720  
 tctccctatt tggtaacctc tgcattttgt acattggcag aagtgggtat gtcctgacat  
 780  
 gcagatgttt ccaatgggat ggctggactg ttgggtcagg tgtttacagt atcttgga  
 840  
 ttcagcgttg gtaattcaga gctgtgtgga ttctgaacaa cataggtacc aggtgcagac  
 900

tcattcattt gactgttttc tcgtgcattt tcataggaag aatttcggta gctcttataa  
 960  
 ggggctctct tgcatttcat aggcagtagc ctataaagtt tatacggata gacactaggc  
 1020  
 ttcaagcctc catttgctgt ttttttactg atggaaagtc tatgatcgat ggcattggaaa  
 1080  
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 1117

<210> 3662

<211> 371

<212> PRT

<213> Homo sapiens

<400> 3662

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Thr | Tyr | Tyr | Ile | Leu | Lys | Asn | His | Gln | Lys | Ser | Phe | His | Ala | Ile |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Asp | His | Arg | Leu | Ser | Ile | Ser | Lys | Lys | Thr | Ala | Asn | Gly | Gly | Leu | Lys |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Pro | Ser | Val | Tyr | Pro | Tyr | Lys | Leu | Tyr | Arg | Leu | Leu | Pro | Met | Lys | Cys |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Lys | Arg | Ala | Pro | Tyr | Lys | Ser | Tyr | Arg | Asn | Ser | Ser | Tyr | Glu | Asn | Ala |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Arg | Glu | Asn | Ser | Gln | Met | Asn | Glu | Ser | Ala | Pro | Gly | Thr | Tyr | Val | Val |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Gln | Asn | Pro | His | Ser | Ser | Glu | Leu | Pro | Thr | Leu | Asn | Phe | Gln | Asp | Thr |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Val | Asn | Thr | Leu | Thr | Asn | Ser | Pro | Ala | Ile | Pro | Leu | Glu | Thr | Ser | Ala |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Cys | Gln | Asp | Ile | Pro | Thr | Ser | Ala | Asn | Val | Gln | Asn | Ala | Glu | Gly | Thr |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Lys | Trp | Gly | Glu | Glu | Ala | Leu | Lys | Met | Asp | Leu | Asp | Asn | Asn | Phe | Tyr |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ser | Thr | Glu | Val | Ser | Val | Ser | Ser | Thr | Glu | Asn | Ala | Val | Ser | Ser | Asp |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Leu | Arg | Ala | Gly | Asp | Val | Pro | Val | Leu | Ser | Leu | Ser | Asn | Ser | Ser | Glu |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Asn | Ala | Ala | Ser | Val | Ile | Ser | Tyr | Ser | Gly | Ser | Ala | Pro | Ser | Val | Ile |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Val | His | Ser | Ser | Gln | Phe | Ser | Ser | Val | Ile | Met | His | Ser | Asn | Ala | Ile |
|     | 195 |     |     |     |     |     |     | 200 |     |     |     | 205 |     |     |     |
| Ala | Ala | Met | Thr | Ser | Ser | Asn | His | Arg | Ala | Phe | Ser | Asp | Pro | Ala | Val |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ser | Gln | Ser | Leu | Lys | Asp | Asp | Ser | Lys | Pro | Glu | Pro | Asp | Lys | Val | Gly |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Arg | Phe | Ala | Ser | Arg | Pro | Lys | Ser | Ile | Lys | Glu | Lys | Lys | Lys | Thr | Thr |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Ser | His | Thr | Arg | Gly | Glu | Ile | Pro | Glu | Glu | Ser | Asn | Tyr | Val | Ala | Asp |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Pro | Gly | Gly | Ser | Leu | Ser | Lys | Thr | Thr | Asn | Ile | Ala | Glu | Glu | Thr | Ser |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Lys | Ile | Glu | Thr | Tyr | Ile | Ala | Lys | Pro | Ala | Leu | Pro | Gly | Thr | Ser | Thr |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Asn | Ser | Asn | Val | Ala | Pro | Leu | Cys | Gln | Ile | Thr | Val | Lys | Ile | Gly | Asn |

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305          310          315          320
Glu Ala Ile Val Lys Arg His Ile Leu Gly Ser Lys Leu Phe Tyr Lys
          325          330          335
Arg Gly Arg Arg Pro Lys Tyr Gln Met Gln Glu Glu Leu Leu Pro Gln
          340          345          350
Gly Asn Asp Pro Glu Pro Ser Gly Asp Ser Pro Leu Gly Leu Cys Gln
          355          360          365
Ser Glu Cys
          370

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<210> 3663
<211> 481
<212> DNA
<213> Homo sapiens

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<400> 3663
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120
tttgaaacat gtcctcctcg cactttctta ccagcccttt acaaaatttt tcttgatgaa
180
agtgtccag acaatgtatt agaggtgaca gcccggtgcca taacatacta cctggatgta
240
tctgcggaat gtacccgaag gattgttggg gtagatggag ctataaaagc actttgtaat
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cgtttggtgg tagttgaact taacaacagg actagcagag acttagctga acagtgtgta
360
aaggtaagta ttacttattg gctcattact tatttttctc agacctctca gggatgagta
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480
g
481

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<210> 3664
<211> 138
<212> PRT
<213> Homo sapiens

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<400> 3664
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20          25          30
Met Ser Asp Asn Val Asp Arg Cys Phe Glu Thr Cys Pro Pro Arg Thr
35          40          45
Phe Leu Pro Ala Leu Tyr Lys Ile Phe Leu Asp Glu Ser Ala Pro Asp
50          55          60
Asn Val Leu Glu Val Thr Ala Arg Ala Ile Thr Tyr Tyr Leu Asp Val
65          70          75          80
Ser Ala Glu Cys Thr Arg Arg Ile Val Gly Val Asp Gly Ala Ile Lys
85          90          95
Ala Leu Cys Asn Arg Leu Val Val Val Glu Leu Asn Asn Arg Thr Ser

```

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 100 |     | 105 |     | 110 |     |     |     |     |     |     |     |     |     |     |
| Arg | Asp | Leu | Ala | Glu | Gln | Cys | Val | Lys | Val | Ser | Ile | Thr | Tyr | Trp | Leu |
|     | 115 |     | 120 |     | 125 |     |     |     |     |     |     |     |     |     |     |
| Ile | Thr | Tyr | Phe | Ser | Gln | Thr | Ser | Gln | Gly |     |     |     |     |     |     |
|     | 130 |     | 135 |     |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 3665

&lt;211&gt; 6633

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3665

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120
gggccctggc gcaacgagag cgccctgagc gtggaaacgc tgctcgacgt gctcgtctgc
180
ctgtacaccg agtgcagcca ctggccctg cgccgcgaca agtacgtggc cgagttcctc
240
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300
gaaataatta aagtaattgg aagaggtgct tttggtgagg ttgctgttgt caaaatgaag
360
aatactgaac gaatttatgc aatgaaaatc ctcaacaagt gggagatgct gaaaagagca
420
gagaccgctg gcttcgaga ggagcgcgat gtgctggtga acggcgactg ccagtggatc
480
accgcgctgc actacgcctt tcaggacgag aaccacctgt acttagtcat ggattactat
540
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600
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660
gtgcacagag acattaaacc tgacaatgtc cttttggacg tgaatggtca tatccgcctg
720
gctgactttg gatcatgttt gaagatgaat gatgatggca ctgtgcagtc ctccgtggcc
780
gtgggcacac ctgactacat ctgccggag atcctgcagg cgatggagga cggcatgggc
840
aaatacgggc ctgagtgtga ctggtggtct ctgggtgtct gcatgtatga gatgctctat
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960
gaagagcgat tccagtcccc atcccatgtc acggatgtat ctgaagaagc gaaggacctc
1020
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1080
aaaaagcatg cgttttttga aggtctaaat tgggaaaata tacgaaacct agaagcacct
1140
tatattcctg atgtgagcag tccctctgac acatccaact tcgacgtgga tgacgacgtg
1200
ctgagaaaca cggaaatatt acctcctggt tctcacacag gcttttctgg attacatttg
1260

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ccattcattg gttttacatt cacaacggaa agctgttttt ctgatcgagg ctctctgaag  
1320  
agcataatgc agtccaacac attaaccaaa gatgaggatg tgcagcggga cctggagcac  
1380  
agcctgcaga tggaagctta cgagaggagg attcggaggc tggaacagga gaagctggag  
1440  
ctgagcagga agctgcaaga gtccaccag accgtgcagt ccctccacgg ctcatctcgg  
1500  
gccctcagca attcaaaccg agataaagaa atcaaaaagc taaatgaaga aatcgaacgc  
1560  
ttgaagaata aaatagcaga ttcaaacagg ctggagcgac agcttgagga cacagtggcg  
1620  
cttcgccaag agcgtgagga ctccacgcag cggctgcggg ggctggagaa gcagcaccgc  
1680  
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1740  
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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Ala | Lys | Val | Arg | Leu | Lys | Lys | Leu | Glu | Gln | Leu | Leu | Leu | Asp |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gly | Pro | Trp | Arg | Asn | Glu | Ser | Ala | Leu | Ser | Val | Glu | Thr | Leu | Leu | Asp |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Val | Leu | Val | Cys | Leu | Tyr | Thr | Glu | Cys | Ser | His | Ser | Ala | Leu | Arg | Arg |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asp | Lys | Tyr | Val | Ala | Glu | Phe | Leu | Glu | Trp | Ala | Lys | Pro | Phe | Thr | Gln |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Val | Lys | Glu | Met | Gln | Leu | His | Arg | Glu | Asp | Phe | Glu | Ile | Ile | Lys |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Val | Ile | Gly | Arg | Gly | Ala | Phe | Gly | Glu | Val | Ala | Val | Val | Lys | Met | Lys |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Asn | Thr | Glu | Arg | Ile | Tyr | Ala | Met | Lys | Ile | Leu | Asn | Lys | Trp | Glu | Met |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu | Lys | Arg | Ala | Glu | Thr | Ala | Cys | Phe | Arg | Glu | Glu | Arg | Asp | Val | Leu |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Val | Asn | Gly | Asp | Cys | Gln | Trp | Ile | Thr | Ala | Leu | His | Tyr | Ala | Phe | Gln |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Asp | Glu | Asn | His | Leu | Tyr | Leu | Val | Met | Asp | Tyr | Tyr | Val | Gly | Gly | Asp |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Leu | Leu | Thr | Leu | Leu | Ser | Lys | Phe | Glu | Asp | Lys | Leu | Pro | Glu | Asp | Met |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Ala | Arg | Phe | Tyr | Ile | Gly | Glu | Met | Val | Leu | Ala | Ile | Asp | Ser | Ile | His |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Gln | Leu | His | Tyr | Val | His | Arg | Asp | Ile | Lys | Pro | Asp | Asn | Val | Leu | Leu |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Asp | Val | Asn | Gly | His | Ile | Arg | Leu | Ala | Asp | Phe | Gly | Ser | Cys | Leu | Lys |
|     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |     |
| Met | Asn | Asp | Asp | Gly | Thr | Val | Gln | Ser | Ser | Val | Ala | Val | Gly | Thr | Pro |

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225                230                235                240
Asp Tyr Ile Ser Pro Glu Ile Leu Gln Ala Met Glu Asp Gly Met Gly
                245                250                255
Lys Tyr Gly Pro Glu Cys Asp Trp Trp Ser Leu Gly Val Cys Met Tyr
                260                265                270
Glu Met Leu Tyr Gly Glu Thr Pro Phe Tyr Ala Glu Ser Leu Val Glu
                275                280                285
Thr Tyr Gly Lys Ile Met Asn His Glu Glu Arg Phe Gln Phe Pro Ser
                290                295                300
His Val Thr Asp Val Ser Glu Glu Ala Lys Asp Leu Ile Gln Arg Leu
305                310                315                320
Ile Cys Ser Arg Glu Arg Arg Leu Gly Gln Asn Gly Ile Glu Asp Phe
                325                330                335
Lys Lys His Ala Phe Phe Glu Gly Leu Asn Trp Glu Asn Ile Arg Asn
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Leu Glu Ala Pro Tyr Ile Pro Asp Val Ser Ser Pro Ser Asp Thr Ser
                355                360                365
Asn Phe Asp Val Asp Asp Asp Val Leu Arg Asn Thr Glu Ile Leu Pro
370                375                380
Pro Gly Ser His Thr Gly Phe Ser Gly Leu His Leu Pro Phe Ile Gly
385                390                395                400
Phe Thr Phe Thr Thr Glu Ser Cys Phe Ser Asp Arg Gly Ser Leu Lys
                405                410                415
Ser Ile Met Gln Ser Asn Thr Leu Thr Lys Asp Glu Asp Val Gln Arg
                420                425                430
Asp Leu Glu His Ser Leu Gln Met Glu Ala Tyr Glu Arg Arg Ile Arg
                435                440                445
Arg Leu Glu Gln Glu Lys Leu Glu Leu Ser Arg Lys Leu Gln Glu Ser
                450                455                460
Thr Gln Thr Val Gln Ser Leu His Gly Ser Ser Arg Ala Leu Ser Asn
465                470                475                480
Ser Asn Arg Asp Lys Glu Ile Lys Lys Leu Asn Glu Glu Ile Glu Arg
                485                490                495
Leu Lys Asn Lys Ile Ala Asp Ser Asn Arg Leu Glu Arg Gln Leu Glu
                500                505                510
Asp Thr Val Ala Leu Arg Gln Glu Arg Glu Asp Ser Thr Gln Arg Leu
                515                520                525
Arg Gly Leu Glu Lys Gln His Arg Val Val Arg Gln Glu Lys Glu Glu
                530                535                540
Leu His Lys Gln Leu Val Glu Ala Ser Glu Arg Leu Lys Ser Gln Ala
545                550                555                560
Lys Glu Leu Lys Asp Ala His Gln Gln Arg Lys Leu Ala Leu Gln Glu
                565                570                575
Phe Ser Glu Leu Asn Glu Arg Met Ala Glu Leu Arg Ala Gln Lys Gln
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Lys Val Ser Arg Gln Leu Arg Asp Lys Glu Glu Glu Met Glu Val Ala
                595                600                605
Thr Gln Lys Val Asp Ala Met Arg Gln Glu Met Arg Arg Ala Glu Lys
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Leu Arg Lys Glu Leu Glu Ala Gln Leu Asp Asp Ala Val Ala Glu Ala
625                630                635                640
Ser Lys Glu Arg Lys Leu Arg Glu His Ser Glu Asn Phe Cys Lys Gln
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Met Glu Ser Glu Leu Glu Ala Leu Lys Val Lys Gln Gly Gly Arg Gly

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|     |     |     |      |     |     |      |     |     |      |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|------|-----|-----|------|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |      |     |     |      |     |     |      | 660 |     |     | 665 |     |     | 670 |  |  |
| Ala | Gly | Ala | Thr  | Leu | Glu | His  | Gln | Gln | Glu  | Ile | Ser | Lys | Ile | Lys | Ser |     |  |  |
|     |     |     | 675  |     |     | 680  |     |     | 685  |     |     |     |     |     |     |     |  |  |
| Glu | Leu | Glu | Lys  | Lys | Val | Leu  | Phe | Tyr | Glu  | Glu | Glu | Leu | Val | Arg | Arg |     |  |  |
|     |     |     | 690  |     |     | 695  |     |     | 700  |     |     |     |     |     |     |     |  |  |
| Glu | Ala | Ser | His  | Val | Leu | Glu  | Val | Lys | Asn  | Val | Lys | Lys | Glu | Val | His |     |  |  |
| 705 |     |     |      |     | 710 |      |     | 715 |      |     |     |     |     | 720 |     |     |  |  |
| Asp | Ser | Glu | Ser  | His | Gln | Leu  | Ala | Leu | Gln  | Lys | Glu | Ile | Leu | Met | Leu |     |  |  |
|     |     |     | 725  |     |     | 730  |     |     | 735  |     |     |     |     |     |     |     |  |  |
| Lys | Asp | Lys | Leu  | Glu | Lys | Ser  | Lys | Arg | Glu  | Arg | His | Asn | Glu | Met | Glu |     |  |  |
|     |     |     | 740  |     |     | 745  |     |     | 750  |     |     |     |     |     |     |     |  |  |
| Glu | Ala | Val | Gly  | Thr | Ile | Lys  | Asp | Lys | Tyr  | Glu | Arg | Glu | Arg | Ala | Met |     |  |  |
|     |     |     | 755  |     |     | 760  |     |     | 765  |     |     |     |     |     |     |     |  |  |
| Leu | Phe | Asp | Glu  | Asn | Lys | Lys  | Leu | Thr | Ala  | Glu | Asn | Glu | Lys | Leu | Cys |     |  |  |
|     |     |     | 770  |     |     | 775  |     |     | 780  |     |     |     |     |     |     |     |  |  |
| Ser | Phe | Val | Asp  | Lys | Leu | Thr  | Ala | Gln | Asn  | Arg | Gln | Leu | Glu | Asp | Glu |     |  |  |
| 785 |     |     |      |     | 790 |      |     | 795 |      |     |     |     |     | 800 |     |     |  |  |
| Leu | Gln | Asp | Leu  | Ala | Ala | Lys  | Lys | Glu | Ser  | Val | Ala | His | Trp | Glu | Ala |     |  |  |
|     |     |     | 805  |     |     | 810  |     |     | 815  |     |     |     |     |     |     |     |  |  |
| Gln | Ile | Ala | Glu  | Ile | Ile | Gln  | Trp | Val | Ser  | Asp | Glu | Lys | Asp | Ala | Arg |     |  |  |
|     |     |     | 820  |     |     | 825  |     |     | 830  |     |     |     |     |     |     |     |  |  |
| Gly | Tyr | Leu | Gln  | Ala | Leu | Ala  | Ser | Lys | Met  | Thr | Glu | Glu | Leu | Glu | Ala |     |  |  |
|     |     |     | 835  |     |     | 840  |     |     | 845  |     |     |     |     |     |     |     |  |  |
| Leu | Arg | Ser | Ser  | Ser | Leu | Gly  | Ser | Arg | Thr  | Leu | Asp | Pro | Leu | Trp | Lys |     |  |  |
|     |     |     | 850  |     |     | 855  |     |     | 860  |     |     |     |     |     |     |     |  |  |
| Val | Arg | Arg | Ser  | Gln | Lys | Leu  | Asp | Met | Ser  | Ala | Arg | Leu | Glu | Leu | Gln |     |  |  |
| 865 |     |     |      |     | 870 |      |     | 875 |      |     |     |     |     | 880 |     |     |  |  |
| Ser | Ala | Leu | Glu  | Ala | Glu | Ile  | Arg | Ala | Lys  | Gln | Leu | Val | Gln | Glu | Glu |     |  |  |
|     |     |     | 885  |     |     | 890  |     |     | 895  |     |     |     |     |     |     |     |  |  |
| Leu | Arg | Lys | Val  | Lys | Asp | Ala  | Asn | Leu | Thr  | Leu | Glu | Ser | Lys | Leu | Lys |     |  |  |
|     |     |     | 900  |     |     | 905  |     |     | 910  |     |     |     |     |     |     |     |  |  |
| Asp | Ser | Glu | Ala  | Lys | Asn | Arg  | Glu | Leu | Leu  | Glu | Glu | Met | Glu | Ile | Leu |     |  |  |
|     |     |     | 915  |     |     | 920  |     |     | 925  |     |     |     |     |     |     |     |  |  |
| Lys | Lys | Lys | Met  | Glu | Glu | Lys  | Phe | Arg | Ala  | Asp | Thr | Gly | Leu | Lys | Leu |     |  |  |
|     |     |     | 930  |     |     | 935  |     |     | 940  |     |     |     |     |     |     |     |  |  |
| Pro | Asp | Phe | Gln  | Asp | Ser | Ile  | Phe | Glu | Tyr  | Phe | Asn | Thr | Ala | Pro | Leu |     |  |  |
| 945 |     |     |      |     | 950 |      |     | 955 |      |     |     |     |     | 960 |     |     |  |  |
| Ala | His | Asp | Leu  | Thr | Phe | Arg  | Asp | Ser | Leu  | Ser | Ser | Ser | Ser | Ala | Ser |     |  |  |
|     |     |     | 965  |     |     | 970  |     |     | 975  |     |     |     |     |     |     |     |  |  |
| Ser | Leu | Leu | Ala  | Phe | Trp | Glu  | Glu | Thr | Ser  | Ser | Ala | Ser | Glu | Gln | Glu |     |  |  |
|     |     |     | 980  |     |     | 985  |     |     | 990  |     |     |     |     |     |     |     |  |  |
| Thr | Gln | Ala | Pro  | Lys | Pro | Glu  | Ala | Ser | Pro  | Ser | Met | Ser | Val | Ala | Ala |     |  |  |
|     |     |     | 995  |     |     | 1000 |     |     | 1005 |     |     |     |     |     |     |     |  |  |
| Ser | Glu | Gln | Gln  | Glu | Asp | Met  | Ala | Arg | Pro  | Pro | Gln | Arg | Pro | Ser | Ala |     |  |  |
|     |     |     | 1010 |     |     | 1015 |     |     | 1020 |     |     |     |     |     |     |     |  |  |

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Val Pro Lys Pro Thr Gly Val Lys Lys Gly Trp Gln Arg Ala Tyr Ala
          1125          1130          1135
Val Val Cys Asp Cys Lys Leu Phe Leu Tyr Asp Leu Pro Glu Gly Lys
          1140          1145          1150
Ser Thr Gln Pro Gly Val Ile Ala Ser Gln Val Leu Asp Leu Arg Asp
          1155          1160          1165
Asp Glu Phe Ser Val Ser Ser Val Leu Ala Ser Asp Val Ile His Ala
          1170          1175          1180
Thr Arg Arg Asp Ile Pro Cys Ile Phe Arg Val Thr Ala Ser Leu Leu
1185          1190          1195          1200
Gly Ala Pro Ser Lys Thr Ser Ser Leu Leu Ile Leu Thr Glu Asn Glu
          1205          1210          1215
Asn Glu Lys Arg Lys Trp Val Gly Ile Leu Glu Gly Leu Gln Ser Ile
          1220          1225          1230
Leu His Lys Asn Arg Leu Arg Asn Gln Val Val His Val Pro Leu Glu
          1235          1240          1245
Ala Tyr Asp Ser Ser Leu Pro Leu Ile Lys Ala Ile Leu Thr Ala Ala
          1250          1255          1260
Ile Val Asp Ala Asp Arg Ile Ala Val Gly Leu Glu Glu Gly Leu Tyr
1265          1270          1275          1280
Val Ile Glu Val Thr Arg Asp Val Ile Val Arg Ala Ala Asp Cys Lys
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Lys Val His Gln Ile Glu Leu Ala Pro Arg Glu Lys Ile Val Ile Leu
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Leu Cys Gly Arg Asn His His Val His Leu Tyr Pro Trp Ser Ser Leu
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Asp Gly Ala Glu Gly Ser Phe Asp Ile Lys Leu Pro Glu Thr Lys Gly
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Cys Gln Leu Met Ala Thr Ala Thr Leu Lys Arg Asn Ser Gly Thr Cys
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Val Gln Cys Leu Ala Val Leu Arg Asp Arg Leu Cys Val Gly Tyr Pro
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Ser Gly Phe Cys Leu Leu Ser Ile Gln Gly Asp Gly Gln Pro Leu Asn
          1410          1415          1420
Leu Val Asn Pro Asn Asp Pro Ser Leu Ala Phe Leu Ser Gln Gln Ser
1425          1430          1435          1440
Phe Asp Ala Leu Cys Ala Val Glu Leu Glu Ser Glu Glu Tyr Leu Leu
          1445          1450          1455
Cys Phe Ser His Met Gly Leu Tyr Val Asp Pro Gln Gly Arg Arg Ala
          1460          1465          1470
Arg Ala Gln Glu Leu Met Trp Pro Ala Ala Pro Val Ala Cys Ser Cys
          1475          1480          1485
Ser Pro Thr His Val Thr Val Tyr Ser Glu Tyr Gly Val Asp Val Phe
          1490          1495          1500
Asp Val Arg Thr Met Glu Trp Val Gln Thr Ile Gly Leu Arg Arg Ile
1505          1510          1515          1520
Arg Pro Leu Asn Ser Glu Gly Thr Leu Asn Leu Leu Asn Cys Glu Pro

```

|   |      |      |      |      |      |
|---|------|------|------|------|------|
|   | 1525 |      | 1530 |      | 1535 |
| Pro Arg Leu Ile Tyr Phe Lys Ser Lys Phe Ser Gly Ala Val Leu Asn |      |      |      |      |      |
|   | 1540 |      | 1545 |      | 1550 |
| Val Pro Asp Thr Ser Asp Asn Ser Lys Lys Gln Met Leu Arg Thr Arg |      |      |      |      |      |
|   | 1555 |      | 1560 |      | 1565 |
| Ser Lys Arg Arg Phe Val Phe Lys Val Pro Glu Glu Glu Arg Leu Gln |      |      |      |      |      |
|   | 1570 |      | 1575 |      | 1580 |
| Gln Arg Arg Glu Met Leu Arg Asp Pro Glu Leu Arg Ser Lys Met Ile |      |      |      |      |      |
| 1585  |      | 1590 |      | 1595 | 1600 |
| Ser Asn Pro Thr Asn Phe Asn His Val Ala His Met Gly Pro Gly Asp |      |      |      |      |      |
|   | 1605 |      | 1610 |      | 1615 |
| Gly Met Gln Val Leu Met Asp Leu Pro Leu Ser Ala Val Pro Pro Ser |      |      |      |      |      |
|   | 1620 |      | 1625 |      | 1630 |
| Gln Glu Glu Arg Pro Gly Pro Ala Pro Thr Asn Leu Ala Arg Gln Pro |      |      |      |      |      |
|   | 1635 |      | 1640 |      | 1645 |
| Pro Ser Arg Asn Lys Pro Tyr Ile Ser Trp Pro Ser Ser Gly Gly Ser |      |      |      |      |      |
|   | 1650 |      | 1655 |      | 1660 |
| Glu Pro Ser Val Thr Val Pro Leu Arg Ser Met Ser Asp Pro Asp Gln |      |      |      |      |      |
| 1665  |      | 1670 |      | 1675 | 1680 |
| Asp Phe Asp Lys Glu Pro Asp Ser Asp Ser Thr Lys His Ser Thr Pro |      |      |      |      |      |
|   | 1685 |      | 1690 |      | 1695 |
| Ser Asn Ser Ser Asn Pro Ser Gly Pro Pro Ser Pro Asn Ser Pro His |      |      |      |      |      |
|   | 1700 |      | 1705 |      | 1710 |
| Arg Ser Gln Leu Pro Leu Glu Gly Leu Glu Gln Pro Ala Cys Asp Thr |      |      |      |      |      |
|   | 1715 |      | 1720 |      | 1725 |

&lt;210&gt; 3667

&lt;211&gt; 505

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3667

tgtacattaa tctaaatacc tggattttaca ttgatattttt aatattttgta aatttcatgt  
60

taattcccta tgtaacaag tttaataagt catctgtaac agtacaatta agtccatata  
120

tgattgtatt tactctttct tccctactca tagtatgcgt tccattttga ggaatcacag  
180

atatcgaaga gatgccagaa cactagaaga tgaagaagag atgtgggtta acacagatga  
240

agatgacatg gaagatggag aagctgtagt gtctccatct gacaaaacta aaaatgatga  
300

tgatattatg gatccaataa gtaaattcat ggaaaggaag aaattaaaag aaagtgagga  
360

aaaggaagtg cttctgaaaa caaacctttc tggacggcag agcccaagtt tcaagctttc  
420

cctgtccagt ggaacgaaga ctaacctcac cagccagtca tctacaacaa atctgcctgg  
480

ttctccggga tcacctggat cccca

505

&lt;210&gt; 3668

&lt;211&gt; 117

&lt;212&gt; PRT

<213> Homo sapiens

<400> 3668

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Met Arg Ser Ile Leu Arg Asn His Arg Tyr Arg Arg Asp Ala Arg Thr
 1           5           10           15
Leu Glu Asp Glu Glu Glu Met Trp Phe Asn Thr Asp Glu Asp Asp Met
           20           25           30
Glu Asp Gly Glu Ala Val Val Ser Pro Ser Asp Lys Thr Lys Asn Asp
           35           40           45
Asp Asp Ile Met Asp Pro Ile Ser Lys Phe Met Glu Arg Lys Lys Leu
           50           55           60
Lys Glu Ser Glu Glu Lys Glu Val Leu Leu Lys Thr Asn Leu Ser Gly
65           70           75           80
Arg Gln Ser Pro Ser Phe Lys Leu Ser Leu Ser Ser Gly Thr Lys Thr
           85           90           95
Asn Leu Thr Ser Gln Ser Ser Thr Thr Asn Leu Pro Gly Ser Pro Gly
           100           105           110
Ser Pro Gly Ser Pro
           115

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<210> 3669

<211> 1226

<212> DNA

<213> Homo sapiens

<400> 3669

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120
ggattaatct tttacattaa tcattcactt tatgaaaacc tggatgaaga attaaatgaa
180
gaattagcag caaaagtggg tcagatgttt tatgtggctg agccaaagca agtgcccat
240
attctctgta gtccttctat gaagaatatt aatcctttaa ctgccatgag ctatctaagg
300
aagatggata cttctgggtt ttcattccatc ttagtgacac tgagcaaggc agcagtggca
360
ctgaaaatgg gagatcttga cgtgtacaga aatgaaatga aaagccatcc agagatgaag
420
ttggtgtgtg gcttcatttt ggaaccacgc ctgttgattc aacacaggaa gggacagatt
480
gttccaactg agcttgcgac tcacttgaag gagactcagc caggattgct tgtggcttca
540
gtcctgggat tgcagaagaa cagcaaaatt gggattgaag aagcagattc tttctttaag
600
gtgctttgtg gtaaggatga agataccatc cctcagctct tgatagaact ttgggaagct
660
cagctagtgg catgtctccc agatgtggta cttcaggaac tctttttcaa actcacatca
720
cagtacatct ggagattgtc taagaggcag cctcctgaca ccacaccatt gogaacatcg
780
gaggatctga taaatgcctg tagtcattat ggcttaattt atccatgggt tcacgtcgta
840

```

atatcatctg attcttttagc tgataaaaat tatacagaag atctttcaaa attacagtct  
 900  
 cttatatgtg gtccttcatt tgacatagct tccattattc cgttcttgga gccactttca  
 960  
 gaagacacta ttgccggcct cagtgtccat gttctgtgtc gtacacgctt gaaagagtat  
 1020  
 gaacagtgc tagacatact gttagagaga tgcccggagg cagtcattcc atatgctaata  
 1080  
 catgaactga aagaagagaa ccggactctg tggtggaaaa aactgttgcc tgaactttgt  
 1140  
 cagagaataa aatgtgggtg agagaagtat caactctacc tgtcatcatt aaaagcttaa  
 1200  
 ttttcacggg aactgtggaa gctagc  
 1226

<210> 3670

<211> 385

<212> PRT

<213> Homo sapiens

<400> 3670

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Gly | Leu | Ser | Met | Ala | Glu | Val | Leu | Ala | Arg | Thr | Asp | Trp | Thr |
| 1   |     |     | 5   |     |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Val | Glu | Asp | Gly | Leu | Gln | Lys | Tyr | Glu | Arg | Gly | Leu | Ile | Phe | Tyr | Ile |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asn | His | Ser | Leu | Tyr | Glu | Asn | Leu | Asp | Glu | Glu | Leu | Asn | Glu | Glu | Leu |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ala | Ala | Lys | Val | Val | Gln | Met | Phe | Tyr | Val | Ala | Glu | Pro | Lys | Gln | Val |
|     |     |     | 50  |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Pro | His | Ile | Leu | Cys | Ser | Pro | Ser | Met | Lys | Asn | Ile | Asn | Pro | Leu | Thr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ala | Met | Ser | Tyr | Leu | Arg | Lys | Met | Asp | Thr | Ser | Gly | Phe | Ser | Ser | Ile |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Leu | Val | Thr | Leu | Ser | Lys | Ala | Ala | Val | Ala | Leu | Lys | Met | Gly | Asp | Leu |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Asp | Val | Tyr | Arg | Asn | Glu | Met | Lys | Ser | His | Pro | Glu | Met | Lys | Leu | Val |
|     |     |     | 115 |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Cys | Gly | Phe | Ile | Leu | Glu | Pro | Arg | Leu | Leu | Ile | Gln | His | Arg | Lys | Gly |
|     |     |     | 130 |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gln | Ile | Val | Pro | Thr | Glu | Leu | Ala | Thr | His | Leu | Lys | Glu | Thr | Gln | Pro |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Gly | Leu | Leu | Val | Ala | Ser | Val | Leu | Gly | Leu | Gln | Lys | Asn | Ser | Lys | Ile |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Gly | Ile | Glu | Glu | Ala | Asp | Ser | Phe | Phe | Lys | Val | Leu | Cys | Gly | Lys | Asp |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Glu | Asp | Thr | Ile | Pro | Gln | Leu | Leu | Ile | Asp | Phe | Trp | Glu | Ala | Gln | Leu |
|     |     |     | 195 |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Val | Ala | Cys | Leu | Pro | Asp | Val | Val | Leu | Gln | Glu | Leu | Phe | Phe | Lys | Leu |
|     |     |     | 210 |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Thr | Ser | Gln | Tyr | Ile | Trp | Arg | Leu | Ser | Lys | Arg | Gln | Pro | Pro | Asp | Thr |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Thr | Pro | Leu | Arg | Thr | Ser | Glu | Asp | Leu | Ile | Asn | Ala | Cys | Ser | His | Tyr |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Gly | Leu | Ile | Tyr | Pro | Trp | Val | His | Val | Val | Ile | Ser | Ser | Asp | Ser | Leu |

260 265 270  
 Ala Asp Lys Asn Tyr Thr Glu Asp Leu Ser Lys Leu Gln Ser Leu Ile  
 275 280 285  
 Cys Gly Pro Ser Phe Asp Ile Ala Ser Ile Ile Pro Phe Leu Glu Pro  
 290 295 300  
 Leu Ser Glu Asp Thr Ile Ala Gly Leu Ser Val His Val Leu Cys Arg  
 305 310 315 320  
 Thr Arg Leu Lys Glu Tyr Glu Gln Cys Ile Asp Ile Leu Leu Glu Arg  
 325 330 335  
 Cys Pro Glu Ala Val Ile Pro Tyr Ala Asn His Glu Leu Lys Glu Glu  
 340 345 350  
 Asn Arg Thr Leu Trp Trp Lys Lys Leu Leu Pro Glu Leu Cys Gln Arg  
 355 360 365  
 Ile Lys Cys Gly Gly Glu Lys Tyr Gln Leu Tyr Leu Ser Ser Leu Lys  
 370 375 380  
 Ala  
 385

&lt;210&gt; 3671

&lt;211&gt; 828

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3671

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 60  
 ccaatgaaat tatgtatctt tatttaatga aaatgcctgc tgcgtaccaa ggtatgtact  
 120  
 agggcatctg gggtaagtaa aaacaaacac atagagcctg cctggagaag ctcatggctt  
 180  
 gatggaaaga taagcaagaa gagttaattt ctaatcaata tgataaaaag gtcagagagc  
 240  
 agtttctgaa aaacatgttt ttgagttgag tcttgaaaga caaggagatg ttagtaaagc  
 300  
 agagaaggga gaattcattc tagaaagatc agacaatgtg tgggaagggc agagtctgaa  
 360  
 aagagcatgc cccatttgga gaagcatcaa gaagcccacg cgttagaagc accggcccca  
 420  
 tgagacaaag acacagctag agagattgac taggcatgt cggaatgtcc tcttatttta  
 480  
 tacatacata agcatataga tacatatagc caaagttacc tttttaatga tcttttttac  
 540  
 ccagtgtatt ctggaggctg aatggtcaca tatgaacatc tccgagaggt tgtgtttggc  
 600  
 aaaagtgaag atgagcatta tcccctttgg aaatcagtca ttggagggat gatggctggt  
 660  
 gttattggcc agtttttagc caatccaact gacctagtga aggttcagat gcaaattggaa  
 720  
 ggaaaaagga aactggaagg aaaaccattg cgatttcgtg gtgtacatca tgcatttgca  
 780  
 aaaatcttag ctgaaggagg aatacgaggg ctttgggcag gctgggta  
 828

&lt;210&gt; 3672

<211> 124  
 <212> PRT  
 <213> Homo sapiens

<400> 3672  
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 Tyr Ser Gln Ser Tyr Leu Phe Asn Asp Leu Phe Tyr Pro Val Tyr Ser  
 20 25 30  
 Gly Gly Arg Met Val Thr Tyr Glu His Leu Arg Glu Val Val Phe Gly  
 35 40 45  
 Lys Ser Glu Asp Glu His Tyr Pro Leu Trp Lys Ser Val Ile Gly Gly  
 50 55 60  
 Met Met Ala Gly Val Ile Gly Gln Phe Leu Ala Asn Pro Thr Asp Leu  
 65 70 75 80  
 Val Lys Val Gln Met Gln Met Glu Gly Lys Arg Lys Leu Glu Gly Lys  
 85 90 95  
 Pro Leu Arg Phe Arg Gly Val His His Ala Phe Ala Lys Ile Leu Ala  
 100 105 110  
 Glu Gly Gly Ile Arg Gly Leu Trp Ala Gly Trp Val  
 115 120

<210> 3673  
 <211> 1052  
 <212> DNA  
 <213> Homo sapiens

<400> 3673  
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 gttcattctg ggagcgctgc tgggtggcat tattatgcat gtataaagtc attcagtgat  
 120  
 gagcagtggt acagcttcaa tgatcaacat gtcagcagga taacacaaga ggacattaag  
 180  
 aaaacacatg gtggatcttc aggaagcaga ggatattatt ctagtgcttt cgcaagttcc  
 240  
 acaaatgcat atatgctgat ctatagactg aaggatccag ccagaaatgc aaaatttcta  
 300  
 gaagtggatg aatacccaga acatattaaa aacttgggtgc agaaagagag agagttggaa  
 360  
 gaacaagaaa agagacaacg agaaattgag cgcaatacat gcaagataaa attattctgt  
 420  
 ttgcatecta caaaacaagt aatgatggaa aataaattgg aggttcataa ggataagaca  
 480  
 ttaaaggaag cagtagaaat ggcttataag atgatggatt tagaagaggt aataccctg  
 540  
 gattgctgtc gccttggtta atatgatgag tttcatgatt atctagaacg gtcatatgaa  
 600  
 ggagaagaag atacaccaat ggggcttcta ctaggtggcg tcaagtcaac atatatgttt  
 660  
 gatctgctgt tggagacgag aaagcctgat cagggtttcc aatcttataa acctggaggg  
 720  
 gagccatttt acaccatttt tagttggtct gtacttagaa ttttcctgag aaaggttttt  
 780

tttttattgt agcaatgaac ataatttaca ttttgtatat ggtcttaciaa tgtagaataa  
 840  
 ttttgacagg ttgagaagta ctcagcacca gcttggaatt aagttctaga ttacttgcaa  
 900  
 agagttgtgt acataatttt aaaaacaaca aaaaacaaca aagcttctag cttacggtct  
 960  
 tcagtgggtt ttttcttctc cagtgggagg tactgaatca ttctggatgc tgtcaatccc  
 1020  
 taaagttatc aattgctctc ttaggaagat ct  
 1052

<210> 3674

<211> 263

<212> PRT

<213> Homo sapiens

<400> 3674

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Ile | Ser | Lys | Ser | Gly | Leu | Glu | Lys | Asn | Ser | Leu | Ile | Tyr | Glu | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Phe | Ser | Val | Met | Val | His | Ser | Gly | Ser | Ala | Ala | Gly | Gly | His | Tyr | Tyr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Cys | Ile | Lys | Ser | Phe | Ser | Asp | Glu | Gln | Trp | Tyr | Ser | Phe | Asn | Asp |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Gln | His | Val | Ser | Arg | Ile | Thr | Gln | Glu | Asp | Ile | Lys | Lys | Thr | His | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gly | Ser | Ser | Gly | Ser | Arg | Gly | Tyr | Tyr | Ser | Ser | Ala | Phe | Ala | Ser | Ser |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Thr | Asn | Ala | Tyr | Met | Leu | Ile | Tyr | Arg | Leu | Lys | Asp | Pro | Ala | Arg | Asn |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ala | Lys | Phe | Leu | Glu | Val | Asp | Glu | Tyr | Pro | Glu | His | Ile | Lys | Asn | Leu |
|     |     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |
| Val | Gln | Lys | Glu | Arg | Glu | Leu | Glu | Glu | Gln | Glu | Lys | Arg | Gln | Arg | Glu |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ile | Glu | Arg | Asn | Thr | Cys | Lys | Ile | Lys | Leu | Phe | Cys | Leu | His | Pro | Thr |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Lys | Gln | Val | Met | Met | Glu | Asn | Lys | Leu | Glu | Val | His | Lys | Asp | Lys | Thr |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Leu | Lys | Glu | Ala | Val | Glu | Met | Ala | Tyr | Lys | Met | Met | Asp | Leu | Glu | Glu |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Val | Ile | Pro | Leu | Asp | Cys | Cys | Arg | Leu | Val | Lys | Tyr | Asp | Glu | Phe | His |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Asp | Tyr | Leu | Glu | Arg | Ser | Tyr | Glu | Gly | Glu | Glu | Asp | Thr | Pro | Met | Gly |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Leu | Leu | Leu | Gly | Gly | Val | Lys | Ser | Thr | Tyr | Met | Phe | Asp | Leu | Leu | Leu |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Glu | Thr | Arg | Lys | Pro | Asp | Gln | Val | Phe | Gln | Ser | Tyr | Lys | Pro | Gly | Gly |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Glu | Pro | Phe | Tyr | Thr | Ile | Phe | Ser | Trp | Ser | Val | Leu | Arg | Ile | Phe | Leu |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Arg | Lys | Val | Phe | Phe | Leu | Leu |     |     |     |     |     |     |     |     |     |
|     |     |     |     | 260 |     |     |     |     |     |     |     |     |     |     |     |

<210> 3675

<211> 837

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3675

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nntccggaga tgtgaagaag gggggcgagc ggacaggaag atgaagggag caaagctgcc
60
cgccgcggga caggcgtcta ggtgaacaag aaaatgaccg aagaaacaca cccagacgat
120
gacagctata ttgtgcgtgt caaggctgtg gttatgacca gagatgactc cagcggggga
180
tggttcccac aggaaggagg cgggatcagt cgcgtcgggg tctgtaaggc catgcacccc
240
gaaggcaatg gacgaagcgg ctttctcatc catggtgaac gacagaaaga caaactggcg
300
gtattggaat gctatgtaag aaaggacttg gtctacacca aagccaatcc aacgtttcat
360
cactggaagg tcgataatag gaagtttggg cttactttcc aaagccctgc tgatgcccga
420
gcctttgaca ggggagtaag gaaagcaatc gaagacctta tagaagaagt agaaaatgat
480
tctggcgggc ccagaaggct cctggcctac ccaactgtct cctgtaatca gaggcccagg
540
gtgtacagct gccactgaaa aggaaaggga tctgtgacct ctggagccct ggttcggttt
600
aggccttggt ctatgggtaa gtgagtagta ggcatttgtg tacatctgat cgtggcctgg
660
agggcccttg ggcagtcagt tctcatggtg ggcttgacta ggtccacag atgcaaacac
720
aaaaattctc cactgcagca catccaggta tcaaatacaga gggttaaaga agccatagac
780
agggccctgt gaagaaagaa atatcaagca aggcattgta ataccaaatt cagatct
837

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&lt;210&gt; 3676

&lt;211&gt; 154

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3676

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Met Thr Glu Glu Thr His Pro Asp Asp Asp Ser Tyr Ile Val Arg Val
1          5          10          15
Lys Ala Val Val Met Thr Arg Asp Asp Ser Ser Gly Gly Trp Phe Pro
20          25          30
Gln Glu Gly Gly Gly Ile Ser Arg Val Gly Val Cys Lys Val Met His
35          40          45
Pro Glu Gly Asn Gly Arg Ser Gly Phe Leu Ile His Gly Glu Arg Gln
50          55          60
Lys Asp Lys Leu Val Val Leu Glu Cys Tyr Val Arg Lys Asp Leu Val
65          70          75          80
Tyr Thr Lys Ala Asn Pro Thr Phe His His Trp Lys Val Asp Asn Arg
85          90          95
Lys Phe Gly Leu Thr Phe Gln Ser Pro Ala Asp Ala Arg Ala Phe Asp
100         105         110
Arg Gly Val Arg Lys Ala Ile Glu Asp Leu Ile Glu Glu Val Glu Asn

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          115              120              125
Asp Ser Gly Gly Pro Arg Arg Leu Leu Ala Tyr Pro Leu Ser Ser Cys
      130              135              140
Asn Gln Arg Pro Arg Val Tyr Ser Cys His
145              150

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<210> 3677  
 <211> 418  
 <212> DNA  
 <213> Homo sapiens

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<400> 3677
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120
tgccgaaaga gcatggagga agatgaaagg cagacaggtc gagaacatgc agtggcgatc
180
tccttgtcac acacatcctg caaatcacag tcttgtggag atgactctca ttcgtctctg
240
tcttcctect catcatcctc atcctcgtcc tcctcttctc gccctgggaa ctcgggagac
300
tgggatccta gctcgttctc gtcggcacat aagctctcgg gcctctggaa ttccccacat
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<210> 3678  
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 <212> PRT  
 <213> Homo sapiens

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<400> 3678
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35     40     45
Glu Arg Gln Thr Gly Arg Glu His Ala Val Ala Ile Ser Leu Ser His
50     55     60
Thr Ser Cys Lys Ser Gln Ser Cys Gly Asp Asp Ser His Ser Ser Ser
65     70     75     80
Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Cys Pro Gly
85     90     95
Asn Ser Gly Asp Trp Asp Pro Ser Ser Phe Leu Ser Ala His Lys Leu
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Ser Leu Gly Ser Pro Pro Thr Ile Pro Gly Ala
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<210> 3679  
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&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3679

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&lt;210&gt; 3680

&lt;211&gt; 189

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3680

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Val | Lys | Gly | Tyr | Asp | Leu | Glu | Leu | Ser | Met | Ala | Leu | Gly | Thr | Tyr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Tyr | Pro | Pro | Pro | Arg | Leu | Arg | Gln | Leu | Pro | Met | Leu | Leu | Gln | Gly |     |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Thr | Ser | Ile | Phe | Thr | Ala | Pro | Lys | Glu | Ile | Ala | Glu | Ile | Lys | Ala | Gln |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu | Glu | Thr | Ala | Leu | Lys | Trp | Arg | Asn | Tyr | Glu | Val | Lys | Leu | Arg | Leu |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Leu | His | Leu | Glu | Glu | Leu | Gln | Met | Glu | His | Asp | Ile | Arg | His | Tyr |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Asp | Leu | Glu | Ser | Val | Pro | Met | Thr | Trp | Asp | Pro | Val | Asp | Gln | Asn | Pro |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Arg | Leu | Leu | Thr | Leu | Glu | Val | Pro | Gly | Val | Thr | Glu | Ser | Arg | Pro | Ser |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Val | Leu | Arg | Gly | Asp | His | Leu | Phe | Ala | Leu | Leu | Ser | Ser | Glu | Thr | His |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Gln | Glu | Asp | Pro | Ile | Thr | Tyr | Lys | Gly | Phe | Val | His | Lys | Val | Glu | Leu |
|     | 130 |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |     |
| Asp | Arg | Val | Lys | Leu | Ser | Phe | Ser | Met | Ser | Leu | Leu | Ser | Arg | Phe | Val |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Asp | Gly | Leu | Thr | Phe | Lys | Val | Asn | Phe | Thr | Phe | Asn | Arg | Gln | Pro | Leu |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Arg | Val | Gln | His | Arg | Ala | Trp | Glu | Leu | Thr | Gly | Arg | Trp |     |     |     |

180

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 <211> 788  
 <212> DNA  
 <213> Homo sapiens

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<210> 3682  
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 <212> PRT  
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 Gly Pro Pro Gly Pro Thr Phe Arg Gln Gln Asp Gly Leu Leu Arg  
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<211> 384

<212> PRT

<213> Homo sapiens

<400> 3684

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| Met | Ala | Phe | Leu | Met | Lys | Lys | Lys | Lys | Phe | Lys | Phe | Gln | Thr | Thr | Phe |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Thr | Leu | Glu | Glu | Leu | Thr | Ala | Val | Pro | Phe | Val | Asn | Gly | Val | Leu | Phe |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Cys | Lys | Val | Arg | Leu | Leu | Asp | Gly | Gly | Asp | Phe | Val | Ser | Leu | Ser | Ser |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Arg | Glu | Glu | Val | Gln | Glu | Asn | Cys | Val | Arg | Trp | Arg | Lys | Arg | Phe | Thr |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Phe | Val | Cys | Lys | Met | Ser | Ala | Asn | Pro | Ala | Thr | Gly | Leu | Leu | Asp | Pro |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Cys | Val | Phe | Arg | Val | Ser | Val | Arg | Lys | Glu | Leu | Lys | Gly | Gly | Lys | Ala |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Tyr | Ser | Lys | Leu | Gly | Phe | Ala | Asp | Leu | Asn | Leu | Ala | Glu | Phe | Ala | Gly |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ser | Gly | Ser | Thr | Val | Arg | Cys | Cys | Leu | Leu | Glu | Gly | Tyr | Asp | Thr | Lys |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |
| Asn | Thr | Arg | Gln | Asp | Asn | Ser | Ile | Leu | Lys | Val | Thr | Ile | Gly | Met | Phe |
|     |     |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Leu | Leu | Ser | Gly | Asp | Pro | Cys | Phe | Lys | Thr | Pro | Pro | Ser | Thr | Ala | Lys |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Ser | Ile | Ser | Ile | Pro | Gly | Gln | Asp | Ser | Ser | Leu | Gln | Leu | Thr | Cys | Lys |
|     |     |     |     | 165 |     |     |     |     |     | 170 |     |     |     | 175 |     |
| Gly | Gly | Gly | Thr | Ser | Ser | Gly | Gly | Ser | Ser | Thr | Asn | Ser | Leu | Thr | Gly |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ser | Arg | Pro | Pro | Lys | Ala | Arg | Pro | Thr | Ile | Leu | Ser | Ser | Gly | Leu | Pro |
|     |     |     | 195 |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Glu | Glu | Pro | Asp | Gln | Asn | Leu | Ser | Ser | Pro | Glu | Glu | Val | Phe | His | Ser |
|     |     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Gly | His | Ser | Arg | Asn | Ser | Ser | Tyr | Ala | Ser | Gln | Gln | Ser | Lys | Ile | Ser |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     | 240 |     |
| Gly | Tyr | Ser | Thr | Glu | His | Ser | His | Ser | Ser | Ser | Leu | Ser | Asp | Leu | Thr |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| His | Arg | Arg | Asn | Thr | Ser | Thr | Ser | Ser | Ser | Ala | Ser | Gly | Gly | Leu | Gly |
|     |     |     | 260 |     |     |     | 265 |     |     |     |     |     | 270 |     |     |
| Met | Thr | Val | Glu | Gly | Pro | Glu | Gly | Ser | Glu | Arg | Glu | His | Arg | Pro | Pro |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Glu | Lys | Pro | Pro | Arg | Pro | Pro | Arg | Pro | Leu | His | Leu | Ser | Asp | Arg | Ser |
|     |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Phe | Arg | Arg | Lys | Lys | Asp | Ser | Val | Glu | Ser | His | Pro | Thr | Trp | Val | Asp |
| 305 |     |     |     | 310 |     |     |     |     |     | 315 |     |     |     | 320 |     |
| Asp | Thr | Arg | Ile | Asp | Ala | Asp | Ala | Ile | Val | Glu | Lys | Ile | Val | Gln | Ser |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |
| Gln | Asp | Phe | Thr | Asp | Gly | Ser | Asn | Thr | Glu | Asp | Ser | Asn | Leu | Arg | Leu |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Phe | Val | Ser | Arg | Asp | Gly | Ser | Ala | Thr | Leu | Ser | Gly | Ile | Gln | Leu | Ala |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Thr | Arg | Val | Ser | Ser | Gly | Val | Tyr | Glu | Pro | Val | Val | Ile | Glu | Ser | His |
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&lt;210&gt; 3685

&lt;211&gt; 1293

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3685

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1080
cccagaatgt cacaagcgtc catgaattcc ttcagactct ggaagctcga aacattctgc
1140
ctatctgagg ttgagatcag gatcacatca gagactccag ctctggccat tttagggtct
1200

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<210> 3686

<211> 111

<212> PRT

<213> Homo sapiens

<400> 3686

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Glu | Gly | Gly | Tyr | Arg | Leu | Thr | Gly | Trp | Arg | Asp | Val | Ser | Gln |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Pro | Ser | Pro | Leu | Ser | Ser | Gly | Ala | His | Cys | Arg | Leu | Leu | Leu | Phe |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Pro | Val | Cys | Cys | Glu | Thr | Asp | His | Arg | Pro | Ala | Gln | Arg | Ser | Pro | Arg |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Arg | Val | Pro | Cys | Leu | Cys | Pro | Pro | Arg | Arg | Arg | His | Pro | Pro | Arg | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Phe | Thr | Ser | Cys | Thr | Phe | Ser | Gly | Ser | Arg | Ser | His | Ile | His | Pro | Thr |
| 65  |     |     |     | 70  |     |     |     |     |     | 75  |     |     |     | 80  |     |
| Trp | Arg | Ser | Pro | His | Asp | Val | Pro | Gly | Ser | Val | Leu | Ala | Pro | Ala | Ala |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Ala | Leu | Gly | Asn | Arg | Ile | Gly | Lys | Arg | Ser | Pro | Arg | Val | Asp | Ala |     |
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<210> 3687

<211> 566

<212> DNA

<213> Homo sapiens

<400> 3687

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 240  
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 300  
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 420  
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 480  
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<210> 3688

<211> 57  
 <212> PRT  
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<400> 3688  
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                     20                    25                    30  
 Glu Tyr Pro Pro Gly Leu Leu Val Ala Val His Leu Phe Ala Leu Met  
                     35                    40                    45  
 Xaa Leu His Val Ser Ala Ala Pro His  
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<210> 3689  
 <211> 1562  
 <212> DNA  
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<400> 3689  
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 180  
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 840  
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1080  
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1200  
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1260  
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acccaagcag agcagcaaga gtggctctgt agtggtgttg cgtccagtg cagcatattg  
1380  
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1560  
tc  
1562

&lt;210&gt; 3690

&lt;211&gt; 504

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3690

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Trp | Glu | Lys | Met | Glu | Thr | Lys | Thr | Ile | Val | Tyr | Asp | Leu | Asp | Thr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Gly | Gly | Leu | Met | Glu | Gln | Ile | Gln | Ala | Leu | Leu | Ala | Pro | Pro | Lys |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Thr | Asp | Glu | Ala | Glu | Lys | Arg | Ser | Arg | Lys | Pro | Glu | Lys | Glu | Pro | Arg |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Arg | Ser | Gly | Arg | Ala | Thr | Asn | His | Asp | Ser | Cys | Asp | Ser | Cys | Lys | Glu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gly | Gly | Asp | Leu | Leu | Cys | Asp | His | Cys | Pro | Ala | Ala | Phe | His | Leu |     |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Gln | Cys | Cys | Asn | Pro | Pro | Leu | Ser | Glu | Glu | Met | Leu | Pro | Pro | Gly | Glu |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Trp | Met | Cys | His | Arg | Cys | Thr | Val | Arg | Arg | Lys | Lys | Arg | Glu | Gln | Lys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Lys | Glu | Leu | Gly | His | Val | Asn | Gly | Leu | Val | Asp | Lys | Ser | Gly | Lys | Arg |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Thr | Thr | Ser | Pro | Ser | Ser | Asp | Thr | Asp | Leu | Leu | Asp | Arg | Ser | Ala | Ser |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Lys | Thr | Glu | Leu | Lys | Ala | Ile | Ala | His | Ala | Arg | Ile | Leu | Glu | Arg | Arg |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Ala | Ser | Arg | Pro | Gly | Thr | Pro | Thr | Ser | Ser | Ala | Ser | Thr | Glu | Thr | Pro |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Thr | Ser | Glu | Gln | Asn | Asp | Val | Asp | Glu | Asp | Ile | Ile | Asp | Val | Asp | Glu |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Glu | Pro | Val | Ala | Ala | Glu | Pro | Asp | Tyr | Val | Gln | Pro | Gln | Leu | Arg | Arg |
|     |     | 195 |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Pro | Phe | Glu | Leu | Leu | Ile | Ala | Ala | Ala | Met | Glu | Arg | Asn | Pro | Thr | Gln |

210 215 220  
 Phe Gln Leu Pro Asn Glu Leu Thr Cys Thr Thr Ala Leu Pro Gly Ser  
 225 230 235 240  
 Ser Lys Arg Arg Arg Lys Glu Glu Thr Thr Gly Lys Asn Val Lys Lys  
 245 250 255  
 Thr Gln His Glu Leu Asp His Asn Gly Leu Val Pro Leu Pro Val Lys  
 260 265 270  
 Val Cys Phe Thr Cys Asn Arg Ser Cys Arg Val Ala Pro Leu Ile Gln  
 275 280 285  
 Cys Asp Tyr Cys Pro Leu Leu Phe His Met Asp Cys Leu Glu Pro Pro  
 290 295 300  
 Leu Thr Ala Met Pro Leu Gly Arg Trp Met Cys Pro Asn His Ile Glu  
 305 310 315 320  
 His Val Val Leu Asn Gln Lys Asn Met Thr Leu Ser Asn Arg Cys Gln  
 325 330 335  
 Val Phe Asp Arg Phe Gln Asp Thr Val Ser Gln His Val Val Lys Val  
 340 345 350  
 Asp Phe Leu Asn Arg Ile His Lys Lys His Pro Pro Asn Arg Arg Val  
 355 360 365  
 Leu Gln Ser Val Lys Arg Arg Ser Leu Lys Val Pro Asp Ala Ile Lys  
 370 375 380  
 Ser Gln Tyr Gln Phe Pro Pro Pro Leu Ile Ala Pro Ala Ala Ile Arg  
 385 390 395 400  
 Asp Gly Glu Leu Ile Cys Asn Gly Ile Pro Glu Glu Ser Gln Met His  
 405 410 415  
 Leu Leu Asn Ser Glu His Leu Ala Thr Gln Ala Glu Gln Gln Glu Trp  
 420 425 430  
 Leu Cys Ser Val Val Ala Leu Gln Cys Ser Ile Leu Lys His Leu Ser  
 435 440 445  
 Ala Lys Gln Met Pro Ser His Trp Asp Ser Glu Gln Thr Glu Lys Ala  
 450 455 460  
 Asp Ile Lys Pro Val Ile Val Thr Asp Ser Ser Val Thr Thr Ser Leu  
 465 470 475 480  
 Gln Thr Ala Asp Lys Thr Pro Thr Pro Ser His Tyr Pro Leu Ser Cys  
 485 490 495  
 Pro Ser Gly Ile Ser Thr Gln Asn  
 500

&lt;210&gt; 3691

&lt;211&gt; 418

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3691

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 120  
 cagcctttct acgtcttaag gcagagaata gccaggataa ggtgccagct caaagctgtg  
 180  
 tgccaaccac gatgcaaaca tggatgaatgt atcgggcca acaagtgcaa gtgtcatcct  
 240  
 ggttatgctg gaaaaacctg taatcaaggt aggaaaacag tctgacataa atacacaatc  
 300

gaagacacct ctatcactcc caaattaaaa atattcttat ctcaaactac tttccatggc  
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 418

<210> 3692

<211> 94

<212> PRT

<213> Homo sapiens

<400> 3692

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Ala | Ala | Glu | Phe | Asp | Gly | Arg | Trp | Pro | Arg | Gln | Ile | Val | Ser | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ile | Gly | Leu | Cys | Arg | Tyr | Gly | Gly | Arg | Ile | Asp | Cys | Cys | Trp | Gly | Trp |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Arg | Gln | Ser | Trp | Gly | Gln | Cys | Gln | Pro | Phe | Tyr | Val | Leu | Arg | Gln |
|     |     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |
| Arg | Ile | Ala | Arg | Ile | Arg | Cys | Gln | Leu | Lys | Ala | Val | Cys | Gln | Pro | Arg |
|     |     |     | 50  |     |     |     | 55  |     |     |     | 60  |     |     |     |     |
| Cys | Lys | His | Gly | Glu | Cys | Ile | Gly | Pro | Asn | Lys | Cys | Lys | Cys | His | Pro |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Gly | Tyr | Ala | Gly | Lys | Thr | Cys | Asn | Gln | Gly | Arg | Lys | Thr | Val |     |     |
|     |     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     |     |

<210> 3693

<211> 2641

<212> DNA

<213> Homo sapiens

<400> 3693

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 180  
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 360  
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 480  
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 540  
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 600  
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 660  
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 720

cgcttccac cacctgcccg cagccctgct ccagcccaac ggcctccatg cctcagagtc  
780  
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960  
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1980  
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2160  
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2280  
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2340

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 2460  
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<210> 3694

<211> 390

<212> PRT

<213> Homo sapiens

<400> 3694

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| Arg | Pro | Arg | Arg | Arg | Glu | Arg | Ala | Ala | Arg | Ala | Asp | Arg | Ala | Ala | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gly | Ala | Ala | Pro | Ala | Gln | Ala | Arg | Gly | Gly | Arg | Arg | Arg | Ala | Ser | Gly |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Cys | Cys | Ala | Pro | Leu | Gly | Val | Arg | Ala | Ser | Gly | Arg | Ala | Val | Pro | Arg |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ala | Val | Phe | Ala | Gly | Met | Lys | Arg | Pro | Cys | Glu | Glu | Thr | Thr | Ser | Glu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ser | Asp | Met | Asp | Glu | Thr | Ile | Asp | Val | Gly | Ser | Glu | Asn | Asn | Tyr | Ser |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Gly | Gln | Ser | Thr | Ser | Ser | Val | Ile | Arg | Leu | Asn | Ser | Pro | Thr | Thr | Thr |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Ser | Gln | Ile | Met | Ala | Arg | Lys | Lys | Arg | Arg | Gly | Ile | Ile | Glu | Lys | Arg |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Arg | Arg | Asp | Arg | Ile | Asn | Asn | Ser | Leu | Ser | Glu | Leu | Arg | Arg | Leu | Val |
|     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Pro | Thr | Ala | Phe | Glu | Lys | Gln | Gly | Ser | Ala | Lys | Leu | Glu | Lys | Ala | Glu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ile | Leu | Gln | Met | Thr | Val | Asp | His | Leu | Lys | Met | Leu | Gln | Ala | Thr | Gly |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Gly | Lys | Gly | Tyr | Phe | Asp | Ala | His | Ala | Leu | Ala | Met | Asp | Phe | Met | Ser |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Ile | Gly | Phe | Arg | Glu | Cys | Leu | Thr | Glu | Val | Ala | Arg | Tyr | Leu | Ser | Ser |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Val | Glu | Gly | Leu | Asp | Ser | Ser | Asp | Pro | Leu | Arg | Val | Arg | Leu | Val | Ser |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| His | Leu | Ser | Thr | Cys | Ala | Thr | Gln | Arg | Glu | Ala | Ala | Ala | Met | Thr | Ser |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Ser | Met | Ala | His | His | Xaa | Ser | Ser | Ala | Pro | Pro | Ala | Ser | Leu | Gly | Arg |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     | 240 |     |
| Arg | Leu | Pro | Pro | Pro | Ala | Arg | Ser | Pro | Ala | Pro | Ala | Gln | Arg | Pro | Pro |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     | 255 |     |     |
| Cys | Leu | Arg | Val | Asn | Pro | Leu | Ser | Pro | Leu | His | Asn | Phe | Arg | Ser | Ala |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |     |
| Ser | Ala | His | Gly | Ser | Ala | Leu | Leu | Thr | Ala | Thr | Phe | Ala | His | Ala | Asp |

|                         |                     |                     |
|-------------------------|---------------------|---------------------|
| 275                     | 280                 | 285                 |
| Ser Ala Leu Arg Met Pro | Ser Thr Gly Ser Val | Ala Pro Cys Val Pro |
| 290                     | 295                 | 300                 |
| Pro Leu Ser Thr Ser Leu | Leu Ser Leu Ser Ala | Thr Val His Ala Ala |
| 305                     | 310                 | 315                 |
| Ala Ala Ala Ala Thr     | Ala Ala His Ser Phe | Pro Leu Ser Phe Ala |
| 325                     | 330                 | 335                 |
| Gly Ala Phe Pro Met Leu | Pro Pro Asn Ala Ala | Ala Ala Val Ala Ala |
| 340                     | 345                 | 350                 |
| Ala Thr Ala Ile Ser Pro | Pro Leu Ser Val Ser | Ala Thr Ser Ser Pro |
| 355                     | 360                 | 365                 |
| Gln Gln Thr Ser Ser Gly | Thr Asn Asn Lys Pro | Tyr Arg Pro Trp Gly |
| 370                     | 375                 | 380                 |
| Thr Glu Val Gly Ala Phe |                     |                     |
| 385                     | 390                 |                     |

&lt;210&gt; 3695

&lt;211&gt; 1615

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3695

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240
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960

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 1615

&lt;210&gt; 3696

&lt;211&gt; 146

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3696

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Val | Ile | Thr | Ile | Tyr | Tyr | Asp | Val | Lys | Val | Arg | Phe | Ile | Val | Arg |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gly | Cys | Gly | Gln | Tyr | Ile | Ser | Tyr | Arg | Cys | Gln | Glu | Lys | Arg | Asn | Thr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Tyr | Phe | Ala | Glu | Tyr | Trp | Tyr | Gln | Ala | Gln | Cys | Cys | Gln | Tyr | Asp | Tyr |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Cys | Asn | Ser | Trp | Ser | Ser | Pro | Gln | Leu | Gln | Ser | Ser | Leu | Pro | Glu | Pro |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| His | Asp | Arg | Pro | Leu | Ala | Leu | Pro | Leu | Ser | Asp | Ser | Gln | Ile | Gln | Trp |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Phe | Tyr | Gln | Ala | Leu | Asn | Leu | Ser | Leu | Pro | Leu | Pro | Asn | Phe | His | Ala |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Gly | Thr | Glu | Pro | Asp | Gly | Leu | Asp | Pro | Met | Val | Thr | Leu | Ser | Leu | Asn |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu | Gly | Leu | Ser | Phe | Ala | Glu | Leu | Arg | Arg | Met | Tyr | Leu | Phe | Leu | Asn |
|     |     | 115 |     |     |     |     |     | 120 |     |     |     | 125 |     |     |     |
| Ser | Ser | Gly | Leu | Leu | Val | Leu | Pro | Gln | Ala | Gly | Leu | Leu | Thr | Pro | His |
|     |     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |
| Pro | Ser |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 145 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 3697

&lt;211&gt; 550

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3697

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 180  
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 240  
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 420  
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 480  
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 540  
 tgtcataaag  
 550

&lt;210&gt; 3698

&lt;211&gt; 183

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3698

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Ala | Ala | Glu | Phe | Asp | Gly | Arg | Trp | Pro | Arg | Gln | Ile | Val | Ser | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ile | Gly | Leu | Cys | Arg | Tyr | Gly | Gly | Arg | Ile | Asp | Cys | Cys | Trp | Gly | Trp |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Arg | Gln | Ser | Trp | Gly | Gln | Cys | Gln | Pro | Val | Cys | Gln | Pro | Arg | Cys |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Lys | His | Gly | Glu | Cys | Ile | Gly | Pro | Asn | Lys | Cys | Lys | Cys | His | Pro | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Tyr | Ala | Gly | Lys | Thr | Cys | Asn | Gln | Asp | Leu | Asn | Glu | Cys | Gly | Leu | Lys |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Pro | Arg | Pro | Cys | Lys | His | Arg | Cys | Met | Asn | Thr | Tyr | Gly | Ser | Tyr | Lys |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Cys | Tyr | Cys | Leu | Asn | Gly | Tyr | Met | Leu | Met | Pro | Asp | Gly | Ser | Cys | Ser |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Ser | Ala | Leu | Thr | Cys | Ser | Met | Ala | Asn | Cys | Gln | Tyr | Gly | Cys | Asp | Val |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Val | Lys | Gly | Gln | Ile | Arg | Cys | Gln | Cys | Pro | Ser | Pro | Gly | Leu | Gln | Leu |
|     | 130 |     |     |     |     | 135 |     |     |     | 140 |     |     |     |     |     |
| Ala | Pro | Asp | Gly | Arg | Thr | Cys | Val | Asp | Val | Asp | Glu | Cys | Ala | Thr | Gly |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     | 160 |     |
| Arg | Ala | Ser | Cys | Pro | Lys | Phe | Arg | Gln | Cys | Val | Asn | Thr | Phe | Gly | Ser |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Tyr | Ile | Cys | Lys | Cys | His | Lys |     |     |     |     |     |     |     |     |     |
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 <211> 510  
 <212> DNA  
 <213> Homo sapiens

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 180  
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 420  
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 510

<210> 3700  
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 35 40 45  
 Arg Asp Pro Asn Leu Pro Val His Ile Arg Gly Trp Leu His Lys Gln  
 50 55 60  
 Asp Ser Ser Gly Leu Arg Leu Trp Lys Arg Arg Trp Phe Val Leu Ser  
 65 70 75 80  
 Gly His Cys Leu Phe Tyr Tyr Lys Asp Ser Arg Glu Glu Ser Val Leu  
 85 90 95  
 Gly Ser Val Leu Leu Pro Ser Tyr Asn Ile Arg Pro Asp Gly Pro Gly  
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 Ala Pro Arg Gly Arg Arg Phe Thr Phe Thr Ala Glu His Pro Gly  
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<210> 3701  
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 <213> Homo sapiens

<400> 3701

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 660  
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 720  
 tactctgatt ttg  
 733

&lt;210&gt; 3702

&lt;211&gt; 236

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3702

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Cys | Ser | Leu | Trp | Ser | Val | Gln | Arg | His | Ile | Ile | Ile | His | Ser | Gly | 1   | 5   | 10  | 15  |
| Glu | Lys | Pro | His | Leu | Cys | Asp | Ile | Cys | Gly | Arg | Gly | Phe | Ser | Asn | Phe | 20  | 25  | 30  |     |
| Ser | Asn | Leu | Lys | Glu | His | Lys | Lys | Thr | His | Thr | Ala | Asp | Lys | Val | Phe | 35  | 40  | 45  |     |
| Thr | Cys | Asp | Glu | Cys | Gly | Lys | Ser | Phe | Asn | Met | Gln | Arg | Lys | Leu | Val | 50  | 55  | 60  |     |
| Lys | His | Arg | Ile | Arg | His | Thr | Gly | Glu | Arg | Pro | Tyr | Ser | Cys | Ser | Ala | 65  | 70  | 75  | 80  |
| Cys | Gly | Lys | Cys | Phe | Gly | Gly | Ser | Gly | Asp | Leu | Arg | Arg | His | Val | Arg | 85  | 90  | 95  |     |
| Thr | His | Thr | Gly | Glu | Lys | Pro | Tyr | Thr | Cys | Glu | Ile | Cys | Asn | Lys | Cys | 100 | 105 | 110 |     |
| Phe | Thr | Arg | Ser | Ala | Val | Leu | Arg | Arg | His | Lys | Lys | Met | His | Cys | Lys | 115 | 120 | 125 |     |
| Ala | Gly | Asp | Glu | Ser | Pro | Asp | Val | Leu | Glu | Glu | Leu | Ser | Gln | Ala | Ile | 130 | 135 | 140 |     |
| Glu | Thr | Ser | Asp | Leu | Glu | Lys | Ser | Gln | Ser | Ser | Asp | Ser | Phe | Ser | Gln | 145 | 150 | 155 | 160 |
| Asp | Thr | Ser | Val | Thr | Leu | Met | Pro | Val | Ser | Val | Lys | Leu | Pro | Val | His |     |     |     |     |

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<210> 3703
<211> 3294
<212> DNA
<213> Homo sapiens
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1320  
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1380  
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<210> 3704

<211> 619

<212> PRT

<213> Homo sapiens

<400> 3704

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Val | Met | Ser | Phe | Arg | Val | Ser | Glu | Leu | Gln | Val | Leu | Leu | Gly | Phe |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Gly | Arg | Asn | Lys | Ser | Gly | Arg | Lys | His | Glu | Leu | Leu | Ala | Lys | Ala |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | His | Leu | Leu | Lys | Ser | Ser | Cys | Ala | Pro | Ser | Val | Gln | Met | Lys | Ile |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Lys | Glu | Leu | Tyr | Arg | Arg | Arg | Phe | Pro | Arg | Lys | Thr | Leu | Gly | Pro | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asp | Leu | Ser | Leu | Leu | Ser | Leu | Pro | Pro | Gly | Thr | Ser | Pro | Val | Gly | Ser |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Pro | Gly | Pro | Leu | Ala | Pro | Ile | Pro | Pro | Thr | Leu | Leu | Ala | Pro | Gly | Thr |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Leu | Leu | Gly | Pro | Lys | Arg | Glu | Val | Asp | Met | His | Pro | Pro | Leu | Pro | Gln |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Pro | Val | His | Pro | Asp | Val | Thr | Met | Lys | Pro | Leu | Pro | Phe | Tyr | Glu | Val |
|     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Tyr | Gly | Glu | Leu | Ile | Arg | Pro | Thr | Thr | Leu | Ala | Ser | Thr | Ser | Ser | Gln |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Arg | Phe | Glu | Glu | Ala | His | Phe | Thr | Phe | Ala | Leu | Thr | Pro | Gln | Gln | Val |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Gln | Gln | Ile | Leu | Thr | Ser | Arg | Glu | Val | Leu | Pro | Gly | Ala | Lys | Cys | Asp |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Tyr | Thr | Ile | Gln | Val | Gln | Leu | Arg | Phe | Cys | Leu | Cys | Glu | Thr | Ser | Cys |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Pro | Gln | Glu | Asp | Tyr | Phe | Pro | Pro | Asn | Leu | Phe | Val | Lys | Val | Asn | Gly |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Lys | Leu | Cys | Pro | Leu | Pro | Gly | Tyr | Leu | Pro | Pro | Thr | Lys | Asn | Gly | Ala |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Glu | Pro | Lys | Arg | Pro | Ser | Arg | Pro | Ile | Asn | Ile | Thr | Pro | Leu | Ala | Arg |

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225          230          235          240
Leu Ser Ala Thr Val Pro Asn Thr Ile Val Val Asn Trp Ser Ser Glu
          245          250          255
Phe Gly Arg Asn Tyr Ser Leu Ser Val Tyr Leu Val Arg Gln Leu Thr
          260          265          270
Ala Gly Thr Leu Leu Gln Lys Leu Arg Ala Lys Gly Ile Arg Asn Pro
          275          280          285
Asp His Ser Arg Ala Leu Ile Lys Glu Lys Leu Thr Ala Asp Pro Asp
          290          295          300
Ser Glu Val Ala Thr Thr Ser Leu Arg Val Ser Leu Met Cys Pro Leu
305          310          315          320
Gly Lys Met Arg Leu Thr Val Pro Cys Arg Ala Leu Thr Cys Ala His
          325          330          335
Leu Gln Ser Phe Asp Ala Ala Leu Tyr Leu Gln Met Asn Glu Lys Lys
          340          345          350
Pro Thr Trp Thr Cys Pro Val Cys Asp Lys Lys Ala Pro Tyr Glu Ser
          355          360          365
Leu Ile Ile Asp Gly Leu Phe Met Glu Ile Leu Ser Ser Cys Ser Asp
          370          375          380
Cys Asp Glu Ile Gln Phe Met Glu Asp Gly Ser Trp Cys Pro Met Lys
385          390          395          400
Pro Lys Lys Glu Ala Ser Glu Val Cys Pro Pro Gly Tyr Gly Leu
          405          410          415
Asp Gly Leu Gln Tyr Ser Pro Val Gln Gly Gly Asp Pro Ser Glu Asn
          420          425          430
Lys Lys Lys Val Glu Val Ile Asp Leu Thr Ile Glu Ser Ser Ser Asp
          435          440          445
Glu Glu Asp Leu Pro Pro Thr Lys Lys His Cys Ser Val Thr Ser Ala
          450          455          460
Ala Ile Pro Ala Leu Pro Gly Ser Lys Gly Val Leu Thr Ser Gly His
465          470          475          480
Gln Pro Ser Ser Val Leu Arg Ser Pro Ala Met Gly Thr Leu Gly Gly
          485          490          495
Asp Phe Leu Ser Ser Leu Pro Leu His Glu Tyr Pro Pro Ala Phe Pro
          500          505          510
Leu Gly Ala Asp Ile Gln Gly Leu Asp Leu Phe Ser Phe Leu Gln Thr
          515          520          525
Glu Ser Gln His Tyr Gly Pro Ser Val Ile Thr Ser Leu Asp Glu Gln
          530          535          540
Asp Ala Leu Gly His Phe Phe Gln Tyr Arg Gly Thr Pro Ser His Phe
545          550          555          560
Leu Gly Pro Leu Ala Pro Thr Leu Gly Ser Ser His Cys Ser Ala Thr
          565          570          575
Pro Ala Pro Pro Pro Gly Arg Val Ser Ser Ile Val Ala Pro Gly Gly
          580          585          590
Ala Leu Arg Glu Gly His Gly Gly Pro Leu Pro Ser Gly Pro Ser Leu
          595          600          605
Thr Gly Cys Arg Ser Asp Ile Ile Ser Leu Asp
610          615

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&lt;210&gt; 3705

&lt;211&gt; 1737

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

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360  
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420  
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<210> 3706

<211> 191

<212> PRT

<213> Homo sapiens

<400> 3706

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Ser | Ser | Leu | Ser | Gly | Leu | Gly | Leu | Leu | Cys | Pro | Gln | Pro | Gln |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Pro | Thr | Ala | Val | Gly | Asp | Ser | Trp | Ala | Pro | Lys | Ala | Gly | Gly | Lys | Asn |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Arg | Gln | Gly | Gln | Gly | Thr | Glu | Ala | Gly | Met | Glu | Ala | Gly | Thr | Glu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ala | Gly | Thr | Glu | Ala | Gly | Arg | Val | Gly | Gly | Val | Thr | Val | Glu | Gln | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Lys | Ser | Leu | Ile | Asn | Tyr | Glu | Pro | His | Gly | Thr | Arg | Thr | Ala | Gly | Phe |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Thr | Ala | His | Pro | Pro | Lys | Ser | Thr | Ser | Val | Cys | Val | Cys | Xaa | Arg | Gln |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| His | Ile | Cys | Thr | Cys | Val | Cys | Met | Cys | Val | Arg | Lys | Cys | Val | Pro | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gln | His | Ile | Cys | Met | Cys | Ala | Cys | Val | Cys | Ile | Arg | Thr | Ala | Ile | Cys |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Thr | Cys | Val | His | Val | Gln | Thr | Ala | Tyr | Leu | Cys | Thr | Cys | Val | Cys | Pro |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gly | Asn | Ile | Cys | Thr | Cys | Val | Ser | Val | Glu | Ala | Ala | Leu | Ser | Val | Cys |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Val | Ser | Arg | Ser | Ile | Ser | Ala | Cys | Val | Cys | Val | Ser | Xaa | Thr | Ala | Tyr |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     | 175 |     |     |
| Leu | Cys | Met | Arg | Val | Cys | Val | Arg | Thr | Ala | Val | Cys | Val | Cys | Val |     |
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<210> 3707

<211> 585

<212> DNA

<213> Homo sapiens

<400> 3707

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 120  
 accaaaagcg tatgcgactt actgaagtgc aagatgataa agaggaggta ggatttcacc  
 180  
 tggcttcaac atgtgctagc tatcaatgtg atacattata tacaacaaaa ggaaagaaca  
 240  
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 300

atgataaaaa cctcaagaa actgggtata gaaggaatgt atctcaacgt aataaaagcc  
 360  
 gtatatgaca gaccancagt tagtatcatc ctgaatgggg aaaatctaca agaactacaa  
 420  
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 480  
 atagtactat aagtcctagc taggcgaatc agaggagaaa taaggggcat gcaaattggg  
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 585

<210> 3708

<211> 106

<212> PRT

<213> Homo sapiens

<400> 3708

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Phe | Thr | Trp | Leu | Gln | His | Val | Leu | Ala | Ile | Asn | Val | Ile | His | Tyr |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Ile | Gln | Gln | Lys | Glu | Arg | Thr | Lys | Ile | Trp | Gly | Ile | Ser | Leu | Asp | Ala |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Asn | Ala | Phe | Asp | Asn | Ile | Gln | Leu | Pro | Tyr | Met | Ile | Lys | Thr | Leu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Lys | Lys | Leu | Gly | Ile | Glu | Gly | Met | Tyr | Leu | Asn | Val | Ile | Lys | Ala | Val |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Tyr | Asp | Arg | Pro | Xaa | Val | Ser | Ile | Ile | Leu | Asn | Gly | Glu | Asn | Leu | Gln |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Glu | Leu | Gln | Thr | Phe | Gly | Leu | Arg | Ser | Gly | Thr | Gln | Gln | Gly | Cys | Pro |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Leu | Ser | Pro | Gln | Leu | Leu | Asn | Ile | Val | Leu |     |     |     |     |     |     |
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<210> 3709

<211> 3768

<212> DNA

<213> Homo sapiens

<400> 3709

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 240  
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 300  
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 360  
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 420  
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 480

tggctggata gaccagaagt ggatgatggc actagtgaag aagaaaatga atctgattcc  
540  
agttcatgca ggacttccaa tagtagtcag acattatcat cctgtcatac tatggagcca  
600  
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660  
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720  
attccagctc acagattggg gctctcctct gtctcagact attttgctgc catgtttact  
780  
aatgatgtca gagaagcaag ataagaagac ataaaaatgg aagggtgtaga accaaattca  
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2100

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 3600  
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 3660  
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 3720

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3768

<210> 3710

<211> 70

<212> PRT

<213> Homo sapiens

<400> 3710

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Pro | Cys | Thr | Ser | Asp | Glu | Phe | Phe | Gln | Ala | Leu | Asn | His | Ala |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Glu | Gln | Thr | Phe | Lys | Lys | Met | Glu | Asn | Tyr | Leu | Arg | His | Lys | Gln | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Cys | Asp | Val | Ile | Leu | Val | Ala | Gly | Asp | Arg | Arg | Ile | Pro | Ala | His | Arg |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Leu | Val | Leu | Ser | Ser | Val | Ser | Asp | Tyr | Phe | Ala | Ala | Met | Phe | Thr | Asn |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asp | Val | Arg | Glu | Ala | Arg |     |     |     |     |     |     |     |     |     |     |
| 65  |     |     |     |     | 70  |     |     |     |     |     |     |     |     |     |     |

<210> 3711

<211> 1366

<212> DNA

<213> Homo sapiens

<400> 3711

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gtgatcctgc tgcggctgga ccggctccgg caggctggct gggagcagat gtggaggctg  
180  
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420  
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660  
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720  
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780  
tcaccagtgc ttgctgccc gcaggacgtg gcctaccatg tgggtgtaccg tgagggggcc  
840

ctataccccg tcaaccagct tcgcaacgtg gccttggccc aggccttcac gccttacgtc  
 900  
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 960  
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 gagctcaggc cccgtaccgt gtgcaatggg cggccaacta tgaaccctac gtggtggtgc  
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 1366

&lt;210&gt; 3712

&lt;211&gt; 368

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3712

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | His | Phe | Ser | Asp | Thr | Gln | Ala | Ile | Gly | Leu | Val | Glu | Asn | Gln | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Asp | Trp | Tyr | Leu | Gly | Asn | Leu | Trp | Lys | Asn | His | Arg | Pro | Trp | Pro | Ala |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Gly | Arg | Gly | Phe | Asn | Thr | Gly | Val | Ile | Leu | Leu | Arg | Leu | Asp | Arg |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |
| Leu | Arg | Gln | Ala | Gly | Trp | Glu | Gln | Met | Trp | Arg | Leu | Thr | Ala | Arg | Arg |
|     |     |     | 50  |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Glu | Leu | Leu | Ser | Leu | Pro | Ala | Ala | Ser | Leu | Ala | Asp | Gln | Asp | Ile | Phe |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Asn | Ala | Val | Ile | Lys | Glu | His | Pro | Gly | Leu | Val | Gln | Arg | Leu | Pro | Cys |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Val | Trp | Asn | Val | Gln | Leu | Ser | Asp | His | Thr | Leu | Ala | Glu | Arg | Cys | Tyr |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ser | Glu | Ala | Ser | Asp | Leu | Lys | Val | Ile | His | Trp | Asn | Ser | Pro | Lys | Lys |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Leu | Arg | Val | Lys | Asn | Lys | His | Val | Glu | Phe | Phe | Arg | Asn | Phe | Tyr | Leu |
|     |     |     | 130 |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Thr | Phe | Leu | Glu | Tyr | Asp | Gly | Asn | Leu | Leu | Arg | Arg | Glu | Leu | Phe | Val |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Cys | Pro | Ser | Gln | Pro | Pro | Pro | Gly | Ala | Glu | Gln | Leu | Gln | Gln | Ala | Leu |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Ala | Gln | Leu | Asp | Glu | Glu | Asp | Pro | Cys | Phe | Glu | Phe | Arg | Gln | Gln | Gln |
|     |     |     | 180 |     |     |     | 185 |     |     |     |     |     | 190 |     |     |
| Leu | Thr | Val | His | Arg | Val | His | Val | Thr | Phe | Leu | Pro | His | Glu | Pro | Pro |
|     |     |     | 195 |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Pro | Pro | Arg | Pro | His | Asp | Val | Thr | Leu | Val | Ala | Gln | Leu | Ser | Met | Asp |
|     |     |     | 210 |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Arg | Leu | Gln | Met | Leu | Glu | Ala | Leu | Cys | Arg | His | Trp | Pro | Gly | Pro | Met |

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225                230                235                240
Ser Leu Ala Leu Tyr Leu Thr Asp Ala Glu Ala Gln Gln Phe Leu His
                245                250                255
Phe Val Glu Ala Ser Pro Val Leu Ala Ala Arg Gln Asp Val Ala Tyr
                260                265                270
His Val Val Tyr Arg Glu Gly Pro Leu Tyr Pro Val Asn Gln Leu Arg
                275                280                285
Asn Val Ala Leu Ala Gln Ala Leu Thr Pro Tyr Val Phe Leu Ser Asp
                290                295                300
Ile Asp Phe Leu Pro Ala Tyr Ser Leu Tyr Asp Tyr Leu Arg Ala Ser
305                310                315                320
Ile Glu Gln Leu Gly Leu Gly Ser Arg Arg Lys Ala Ala Leu Val Val
                325                330                335
Pro Ala Phe Glu Thr Leu Arg Tyr Arg Phe Ser Phe Pro His Ser Lys
                340                345                350
Val Glu Leu Leu Ala Leu Leu Asp Ala Gly Thr Leu Tyr Thr Phe Arg
                355                360                365

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&lt;210&gt; 3713

&lt;211&gt; 1719

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3713

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ccatgggaag tagaacgcg gctcgcatgc ctgcccgcgc gccagcctgc cgggtacggc
60
cttttcgcgc ggggcttcca ggtcaaagaa ttgcctttg ccgctaccgc tttcttacc
120
tccgcacccg ttaagttctc cggtcgggcg gcagtctctg aacacttagc cgcgccatcc
180
ggggtcacac cgctggaag gaggtgacgg gggcggcgcg gggcgcggaac actccccgct
240
gagagtccgc ctgccatgga ctcggaatat tacagcggcg accagtcaga tgatgggtgg
300
gctaccccag tacaggatga acgggattca gggtcagacg gtgaggatga tgtaaatgag
360
caacactccg gatcagacac tggaagtgtg gaacgtcatt cagagaatga aactagtgat
420
cgagaagatg gccccccaa aggacatcat gtgacagact ctgagaacga tgagccctta
480
aatcttaatg ctagtgactc tgaaagttag gagcttcaca ggcaaaagga cagcgactct
540
gaatctgagg aacgtgcaga gcctcctgca agcgattctg aaaatgagga tgtcaatcag
600
catgggagcg actctgagag tgaagagacc aggaaattac ctggtagtga ctctgaaaat
660
gaggaacttc ttaatgggca tgcaagtgc tcagaaaacg aagatgttgg gaagcatccc
720
gccagtgcatt ctgagattga ggagctccag aagagtcctg ctagtgactc tgaaacagaa
780
gatgctctaa aacctcaaat cagtgcactc gagagtgcgg aacccccaa gcaccaagcc
840
agtgcactccg aaaatgagga gcctcccaaa cctcgaatga gtgattctga aagtgcagg
900

```

cttcctaaac ctcaggtcag tgattcagaa agtgaggaac cccaaggca ccaggccagt  
 960  
 gactctgaaa atgaggagct tcccaaacct cgtatcagtg actcagaaag tgaggacctt  
 1020  
 ccgaggcacc aggccagtga ctcaaaaaat gaagagcttc ccaaaccctg aatcagtgat  
 1080  
 tcggaaagtg aggatcccc aaggaaccag gccagtgatt cggaaaatga ggagctaccc  
 1140  
 aaaccccgag tcagtgactc tgagagtga gggcctcaga aggggcctgc cagtgactca  
 1200  
 gaaactgagg atgctgccag acacaaacag aagccagagt cagatgatga cagcgacagg  
 1260  
 gagaataagg gagaggatac agaaatgcag aatgactcct tccattcaga cagccatatg  
 1320  
 gacagaaaaa agtttcacag ttctgatagt gaggaggaag aacacaaaaa gcaaaaaatg  
 1380  
 gacagtgatg aagatgaaaa agaggggtgag gaggagaaag tagcgaagag aaaagctgct  
 1440  
 gtgctttctg atagtgaaga tgaagagaaa gcatcagcaa agaagagtcg tgttgctctt  
 1500  
 gatgcagatg actctgacag tgatgctgta tcagacaagt caggcaaaag agagaagacc  
 1560  
 atagcatctg acagtgagga agaagctggg aaagaattgt ctgataagaa aaatgaagag  
 1620  
 aaggatctgt ttgggagtga cagtgaagca ggcaatgaag aagaaaatct tattgcagac  
 1680  
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 1719

<210> 3714

<211> 488

<212> PRT

<213> Homo sapiens

<400> 3714

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asp | Ser | Glu | Tyr | Tyr | Ser | Gly | Asp | Gln | Ser | Asp | Asp | Gly | Gly | Ala |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Thr | Pro | Val | Gln | Asp | Glu | Arg | Asp | Ser | Gly | Ser | Asp | Gly | Glu | Asp | Asp |
|     |     |     | 20  |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Val | Asn | Glu | Gln | His | Ser | Gly | Ser | Asp | Thr | Gly | Ser | Val | Glu | Arg | His |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Ser | Glu | Asn | Glu | Thr | Ser | Asp | Arg | Glu | Asp | Gly | Pro | Pro | Lys | Gly | His |
|     |     | 50  |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| His | Val | Thr | Asp | Ser | Glu | Asn | Asp | Glu | Pro | Leu | Asn | Leu | Asn | Ala | Ser |
|     |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Asp | Ser | Glu | Ser | Glu | Glu | Leu | His | Arg | Gln | Lys | Asp | Ser | Asp | Ser | Glu |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     | 95  |     |     |
| Ser | Glu | Glu | Arg | Ala | Glu | Pro | Pro | Ala | Ser | Asp | Ser | Glu | Asn | Glu | Asp |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Val | Asn | Gln | His | Gly | Ser | Asp | Ser | Glu | Ser | Glu | Glu | Thr | Arg | Lys | Leu |
|     |     | 115 |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |
| Pro | Gly | Ser | Asp | Ser | Glu | Asn | Glu | Glu | Leu | Leu | Asn | Gly | His | Ala | Ser |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Asp | Ser | Glu | Asn | Glu | Asp | Val | Gly | Lys | His | Pro | Ala | Ser | Asp | Ser | Glu |

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145          150          155          160
Ile Glu Glu Leu Gln Lys Ser Pro Ala Ser Asp Ser Glu Thr Glu Asp
          165          170          175
Ala Leu Lys Pro Gln Ile Ser Asp Ser Glu Ser Glu Glu Pro Pro Arg
          180          185          190
His Gln Ala Ser Asp Ser Glu Asn Glu Glu Pro Pro Lys Pro Arg Met
          195          200          205
Ser Asp Ser Glu Ser Glu Glu Leu Pro Lys Pro Gln Val Ser Asp Ser
          210          215          220
Glu Ser Glu Glu Pro Pro Arg His Gln Ala Ser Asp Ser Glu Asn Glu
225          230          235          240
Glu Leu Pro Lys Pro Arg Ile Ser Asp Ser Glu Ser Glu Asp Pro Pro
          245          250          255
Arg His Gln Ala Ser Asp Ser Glu Asn Glu Glu Leu Pro Lys Pro Arg
          260          265          270
Ile Ser Asp Ser Glu Ser Glu Asp Pro Pro Arg Asn Gln Ala Ser Asp
          275          280          285
Ser Glu Asn Glu Glu Leu Pro Lys Pro Arg Val Ser Asp Ser Glu Ser
          290          295          300
Glu Gly Pro Gln Lys Gly Pro Ala Ser Asp Ser Glu Thr Glu Asp Ala
305          310          315          320
Ser Arg His Lys Gln Lys Pro Glu Ser Asp Asp Ser Asp Arg Glu
          325          330          335
Asn Lys Gly Glu Asp Thr Glu Met Gln Asn Asp Ser Phe His Ser Asp
          340          345          350
Ser His Met Asp Arg Lys Lys Phe His Ser Ser Asp Ser Glu Glu Glu
          355          360          365
Glu His Lys Lys Gln Lys Met Asp Ser Asp Glu Asp Glu Lys Glu Gly
          370          375          380
Glu Glu Glu Lys Val Ala Lys Arg Lys Ala Ala Val Leu Ser Asp Ser
385          390          395          400
Glu Asp Glu Glu Lys Ala Ser Ala Lys Lys Ser Arg Val Val Ser Asp
          405          410          415
Ala Asp Asp Ser Asp Ser Asp Ala Val Ser Asp Lys Ser Gly Lys Arg
          420          425          430
Glu Lys Thr Ile Ala Ser Asp Ser Glu Glu Glu Ala Gly Lys Glu Leu
          435          440          445
Ser Asp Lys Lys Asn Glu Glu Lys Asp Leu Phe Gly Ser Asp Ser Glu
          450          455          460
Ser Gly Asn Glu Glu Glu Asn Leu Ile Ala Asp Ile Phe Gly Glu Ser
465          470          475          480
Gly Asp Glu Glu Glu Glu Glu Phe
          485

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&lt;210&gt; 3715

&lt;211&gt; 288

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3715

ngccgcggcg cgggccccgc ggggggttaga ggtcaccatg ctgagggtcg cgtaaaggac

60

accacatccc tggaggctcg aattattgcc ttgtctggca agatccgcag ttatgaagaa

120

cacttgaggaga aacatcgaaa ggacaaagcc cacaaacgct atctgctaata gagcattgac  
 180  
 cagaggaaaa agatgctcaa aaacctccgt aacaccaact atgatgtctt tgagaagata  
 240  
 tgctgggggc tgggaattga gtacaccttc cccctctgt attaccgn  
 288

<210> 3716

<211> 96

<212> PRT

<213> Homo sapiens

<400> 3716

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Arg | Gly | Ala | Gly | Pro | Ala | Gly | Val | Arg | Gly | His | His | Ala | Glu | Gly |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Arg | Val | Lys | Asp | Thr | Thr | Ser | Leu | Glu | Ala | Arg | Ile | Ile | Ala | Leu | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Lys | Ile | Arg | Ser | Tyr | Glu | Glu | His | Leu | Glu | Lys | His | Arg | Lys | Asp |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Lys | Ala | His | Lys | Arg | Tyr | Leu | Leu | Met | Ser | Ile | Asp | Gln | Arg | Lys | Lys |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Met | Leu | Lys | Asn | Leu | Arg | Asn | Thr | Asn | Tyr | Asp | Val | Phe | Glu | Lys | Ile |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Cys | Trp | Gly | Leu | Gly | Ile | Glu | Tyr | Thr | Phe | Pro | Pro | Leu | Tyr | Tyr | Arg |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |

<210> 3717

<211> 1545

<212> DNA

<213> Homo sapiens

<400> 3717

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 ttctggccca taaattattt taaaagctat ttattcgctt atgaacattt ttagagggga  
 120  
 taacatgggc cctcacaaca tcccgaggag acaaaaacat agcagattta ataactaat  
 180  
 ttagcaagat aaaagtgtgg atttttgtga aaggtagaca ttttctttaa caagtaaaag  
 240  
 ttacagatca ttattgatat ttacttattt taaagtaaag gcattacaca ctcaacattt  
 300  
 ggcctgatct gattttttaa cttcatccct aggattgata ttgctgatga tattattaat  
 360  
 gccagtgaat gtaacagaga ctgttcaaaa cctgtggcta gcactaattt agacaatgaa  
 420  
 gctatgcagc aagattgtgt atttgagaat gaagaaaata cccagtctgt aggtatattg  
 480  
 ttagagccat gcagtgaccg tggtagatgt gaagatggct gtcttgagag ggaagaatat  
 540  
 ttgttatttg acagtgataa attgtcacac ttgattctgg attctagtag caagatatgt  
 600  
 gatttgaatg ccaacactga atcagaagta ccaggaggct agagtgttgg tgttcaaggg  
 660

gaagcagcgt gtgtcagtat tccacattta gatctgaaga atgtttctga tgggtgataaa  
 720  
 tgggaagagc catttcctgc ttttaagtct tggcaggagg actctgagtc tggagaagct  
 780  
 cagctgtctc cacaagctgg aagaatgaat catcaccctc tggaagagga ctgtcctcca  
 840  
 gtattatcac accgcagttt agattttggt caaagccagc gtttcctaca tgatccagaa  
 900  
 aagttggatt cctcatctaa agcactgtct ttactagaa ttcgaagatc atcctttagt  
 960  
 tcaaaagatg aaaagagaga ggacagaaca cttatcagc tggtaagaa acttcagaag  
 1020  
 aaaatcagac aatttgagga acagtttgaa agggaaagaa atagcaagcc ctccctacagt  
 1080  
 gatattgctg ccaatccaaa ggtattaaaa tggatgacag agcttacaaa actgcggaag  
 1140  
 caaattaaaag atgcaaaaaca caaaaattct gatggagaat ttgtacctca gacacgtcca  
 1200  
 cgtagtaaca cacttccaaa aagctttggc tcttctctag accatgaaga tgaagagaat  
 1260  
 gaagatgaac ccaaggtcat tcagaaggag aaaaaacat ctaaagaagc aacccttgaa  
 1320  
 cttattctta aaagactgaa agaaaaacgt attgagaggt gtcttccaga agatatcaag  
 1380  
 aaaatgacca aagatcattt ggtagaagag aaagcttctc ttcagaaaag tcttctttac  
 1440  
 tatgaaagtc aacatggaag gccggtgacc aaggaagaaa ggcacattgt taaacctctc  
 1500  
 tatgatagat acaggcttgt aaaacaaatg ctgacaagag ctage  
 1545

&lt;210&gt; 3718

&lt;211&gt; 374

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3718

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gln | Gln | Asp | Cys | Val | Phe | Glu | Asn | Glu | Glu | Asn | Thr | Gln | Ser | Val |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gly | Ile | Leu | Leu | Glu | Pro | Cys | Ser | Asp | Arg | Gly | Asp | Ser | Glu | Asp | Gly |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Cys | Leu | Glu | Arg | Glu | Glu | Tyr | Leu | Leu | Phe | Asp | Ser | Asp | Lys | Leu | Ser |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| His | Leu | Ile | Leu | Asp | Ser | Ser | Ser | Lys | Ile | Cys | Asp | Leu | Asn | Ala | Asn |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Thr | Glu | Ser | Glu | Val | Pro | Gly | Gly | Gln | Ser | Val | Gly | Val | Gln | Gly | Glu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ala | Ala | Cys | Val | Ser | Ile | Pro | His | Leu | Asp | Leu | Lys | Asn | Val | Ser | Asp |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Gly | Asp | Lys | Trp | Glu | Glu | Pro | Phe | Pro | Ala | Phe | Lys | Ser | Trp | Gln | Glu |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Asp | Ser | Glu | Ser | Gly | Glu | Ala | Gln | Leu | Ser | Pro | Gln | Ala | Gly | Arg | Met |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Asn | His | His | Pro | Leu | Glu | Glu | Asp | Cys | Pro | Pro | Val | Leu | Ser | His | Arg |

130 135 140  
 Ser Leu Asp Phe Gly Gln Ser Gln Arg Phe Leu His Asp Pro Glu Lys  
 145 150 155 160  
 Leu Asp Ser Ser Ser Lys Ala Leu Ser Phe Thr Arg Ile Arg Arg Ser  
 165 170 175  
 Ser Phe Ser Ser Lys Asp Glu Lys Arg Glu Asp Arg Thr Pro Tyr Gln  
 180 185 190  
 Leu Val Lys Lys Leu Gln Lys Lys Ile Arg Gln Phe Glu Glu Gln Phe  
 195 200 205  
 Glu Arg Glu Arg Asn Ser Lys Pro Ser Tyr Ser Asp Ile Ala Ala Asn  
 210 215 220  
 Pro Lys Val Leu Lys Trp Met Thr Glu Leu Thr Lys Leu Arg Lys Gln  
 225 230 235 240  
 Ile Lys Asp Ala Lys His Lys Asn Ser Asp Gly Glu Phe Val Pro Gln  
 245 250 255  
 Thr Arg Pro Arg Ser Asn Thr Leu Pro Lys Ser Phe Gly Ser Ser Leu  
 260 265 270  
 Asp His Glu Asp Glu Glu Asn Glu Asp Glu Pro Lys Val Ile Gln Lys  
 275 280 285  
 Glu Lys Lys Pro Ser Lys Glu Ala Thr Leu Glu Leu Ile Leu Lys Arg  
 290 295 300  
 Leu Lys Glu Lys Arg Ile Glu Arg Cys Leu Pro Glu Asp Ile Lys Lys  
 305 310 315 320  
 Met Thr Lys Asp His Leu Val Glu Glu Lys Ala Ser Leu Gln Lys Ser  
 325 330 335  
 Leu Leu Tyr Tyr Glu Ser Gln His Gly Arg Pro Val Thr Lys Glu Glu  
 340 345 350  
 Arg His Ile Val Lys Pro Leu Tyr Asp Arg Tyr Arg Leu Val Lys Gln  
 355 360 365  
 Met Leu Thr Arg Ala Ser  
 370

&lt;210&gt; 3719

&lt;211&gt; 422

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3719

nnnccatctgc gctgagtggg agtataataa aatacctcnn cactggggac tgggatggga  
 60  
 ttttgggctt ggctgctccg tggtttgatc ttctcgcggtt tgcttgggtc ctacatgggt  
 120  
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 180  
 cagcccggtt gcaaaaatgt gtgttttgat gacttcttcc ccatttccca agtcagactt  
 240  
 tgggccttac aactgataat ggtctccaca ccttcacttc tgggtggtttt acatgtagcc  
 300  
 tatcatgagg gtagagagaa aaggcacaga aagaaactct atgtcagccc aggtacaatg  
 360  
 gatggggggc tatggtacgc ttatcttata agcctcattg ttaaaactgg ttttgaaacn  
 420  
 nn  
 422

<210> 3720  
 <211> 122  
 <212> PRT  
 <213> Homo sapiens

<400> 3720  
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 Asn Gln Lys Lys Phe Glu Cys Asn Ser Arg Gln Pro Gly Cys Lys Asn  
 35 40 45  
 Val Cys Phe Asp Asp Phe Phe Pro Ile Ser Gln Val Arg Leu Trp Ala  
 50 55 60  
 Leu Gln Leu Ile Met Val Ser Thr Pro Ser Leu Leu Val Val Leu His  
 65 70 75 80  
 Val Ala Tyr His Glu Gly Arg Glu Lys Arg His Arg Lys Lys Leu Tyr  
 85 90 95  
 Val Ser Pro Gly Thr Met Asp Gly Gly Leu Trp Tyr Ala Tyr Leu Ile  
 100 105 110  
 Ser Leu Ile Val Lys Thr Gly Phe Glu Thr  
 115 120

<210> 3721  
 <211> 4728  
 <212> DNA  
 <213> Homo sapiens

<400> 3721  
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 120  
 cccaccgaca tggctcgccg gcagcagaag atcagcaaac agcagctgca gacagtcaag  
 180  
 gaccggtttc aggccttccct caatggggaa acccagatca tggctgacga agccttcatg  
 240  
 aacgctgtgc agagttacta tgagggtgtt ctgaagagcg accgtgtggc ccgcatgggt  
 300  
 cagagtggag gctgttccgc caacgactcc cgggaggtct tcaagaagca cattgagaag  
 360  
 agagtgcgca gcctgcctga gattgacggc ctcagcaagg agactgtgct gagctcctgg  
 420  
 atggccaaat ttgatgccat ctaccgtgga gaagaggacc cgcggaagca gcaggcccg  
 480  
 atgacagcca ggcagcctc cgagctgatt ctgagcaagg agcaactcta tgagatgttc  
 540  
 cagaacattc ttgggatcaa gaagttcgaa catcagctcc tttaaatgc ctgccagctg  
 600  
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| Glu | Arg | Lys | Lys | Arg | Leu | Gln | Leu | Tyr | Val | Phe | Val | Met | Arg | Cys | Ile |
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| Gln | Lys | Ile | Ser | Lys | Gln | Gln | Leu | Gln | Thr | Val | Lys | Asp | Arg | Phe | Gln |
|     |     |     | 50  |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ala | Phe | Leu | Asn | Gly | Glu | Thr | Gln | Ile | Met | Ala | Asp | Glu | Ala | Phe | Met |
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| Asn | Ala | Val | Gln | Ser | Tyr | Tyr | Glu | Val | Phe | Leu | Lys | Ser | Asp | Arg | Val |
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| Val | Phe | Lys | Lys | His | Ile | Glu | Lys | Arg | Val | Arg | Ser | Leu | Pro | Glu | Ile |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
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|     |     |     | 130 |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Asp | Ala | Ile | Tyr | Arg | Gly | Glu | Glu | Asp | Pro | Arg | Lys | Gln | Gln | Ala | Arg |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Met | Thr | Ala | Ser | Ala | Ala | Ser | Glu | Leu | Ile | Leu | Ser | Lys | Glu | Gln | Leu |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |  |
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|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |
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|     | 355 |     |     |     |     | 360 |     |     |     |     |     | 365 |     |     |     |  |  |
| Ser | Thr | Gly | Val | Leu | Ala | Leu | Glu | Asp | Lys | Glu | Leu | Gly | Arg | Val | Ile |  |  |
|     | 370 |     |     |     |     | 375 |     |     |     | 380 |     |     |     |     |     |  |  |
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|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |  |  |
| Lys | Lys | Ala | Glu | Pro | Gln | Glu | Leu | Leu | Gln | Leu | Asp | Gly | Tyr | Thr | Val |  |  |
| 465 |     |     |     | 470 |     |     |     |     |     | 475 |     |     |     |     | 480 |  |  |
| Asp | Tyr | Thr | Asp | Pro | Gln | Pro | Gly | Leu | Glu | Gly | Gly | Arg | Ala | Phe | Phe |  |  |
|     |     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |  |  |
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|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     |     |     |     |  |  |

|      |     |     |     |     |      |     |     |     |     |      |     |     |     |     |     |
|------|-----|-----|-----|-----|------|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|
| 595  |     |     |     |     | 600  |     |     |     |     | 605  |     |     |     |     |     |
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| 610  |     |     |     |     | 615  |     |     |     |     | 620  |     |     |     |     |     |
| Arg  | Asn | Gly | Val | Arg | Gly  | Cys | His | Arg | His | Leu  | Cys | Tyr | Leu | Arg | Asp |
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| Leu  | Leu | Glu | Arg | Ala | Glu  | Asn | Gly | Ala | Met | Ile  | Asp | Pro | Thr | Leu | Leu |
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| His  | Tyr | Ser | Phe | Ala | Phe  | Cys | Ala | Ser | His | Val  | His | Gly | Asn | Arg | Pro |
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| Asp  | Gly | Ile | Gly | Thr | Val  | Thr | Val | Glu | Glu | Lys  | Glu | Arg | Phe | Glu | Glu |
| 675  |     |     |     |     | 680  |     |     |     |     | 685  |     |     |     |     |     |
| Ile  | Lys | Glu | Arg | Leu | Arg  | Val | Leu | Leu | Glu | Asn  | Gln | Ile | Thr | His | Phe |
| 690  |     |     |     |     | 695  |     |     |     |     | 700  |     |     |     |     |     |
| Arg  | Tyr | Cys | Phe | Pro | Phe  | Gly | Arg | Pro | Glu | Gly  | Ala | Leu | Lys | Ala | Thr |
| 705  |     |     |     |     | 710  |     |     |     |     | 715  |     |     |     |     |     |
| Leu  | Ser | Leu | Leu | Glu | Arg  | Val | Leu | Met | Lys | Asp  | Ile | Val | Thr | Pro | Val |
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| 755  |     |     |     |     | 760  |     |     |     |     | 765  |     |     |     |     |     |
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| Lys  | Leu | Glu | Asp | Thr | Ile  | Arg | Leu | Ala | Glu | Leu  | Val | Ile | Glu | Val | Leu |
| 785  |     |     |     |     | 790  |     |     |     |     | 795  |     |     |     |     |     |
| Gln  | Gln | Asn | Glu | Glu | His  | His | Ala | Glu | Pro | His  | Val | Asp | Lys | Gly | Glu |
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| 850  |     |     |     |     | 855  |     |     |     |     | 860  |     |     |     |     |     |
| Leu  | Arg | Thr | Asp | Tyr | Asn  | Leu | Cys | Asn | Gly | Lys  | Phe | His | Lys | His | Leu |
| 865  |     |     |     |     | 870  |     |     |     |     | 875  |     |     |     |     |     |
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Gly Met Asp Val Ala Asp Ala Tyr Val Thr Phe Val Arg His Ser Gln
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&lt;210&gt; 3723

&lt;211&gt; 830

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3723

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tgtgtcaaca ccaccgggca tttggtgaag atcattgact ttggcctggc acggaggtat
120
aaccccaacg agaagctgaa ggtgaacttt gggaccccag agttcctgtc acctgaggtg
180
gtgaattatg accaaatctc cgataagaca gacatgtgga gtatgggggt gatcacctac
240
atgctgctga gcggcctctc ccccttcctg ggagatgatg acacagagac cctaaacaac
300
gttctatctg gcaactggta ctttgatgaa gagacctttg aggccgtatc agacgagggc
360
aaagactttg tctccaacct catcgtcaag gaccagaggg cccggatgaa cgctgccag
420
tgtctcgccc atccctggct caacaacctg gcgagaaaag ccaaacgctg taaccgacgc
480
cttaagtccc agatcttgct taagaaatac ctcatgaaga ggcgctggaa gaaaaacttc
540
attgctgtca gcgctgccaa ccgcttcaag aagatcagca gctcgggggc actgatggct
600
ctgggggtct gagccctggg cgcagctgaa gcctggacgc agccacacag tggccggggc
660
tgaagccaca cagcccagaa ggccagaaaa ggcagccaga tccccagggc agcctcgтта
720

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ggacaaggct gtgccaggct gggaggctcg gggctcccca cgcccccatg cagtgaaccgc  
 780  
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 830

<210> 3724  
 <211> 203  
 <212> PRT  
 <213> Homo sapiens

<400> 3724  
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 20 25 30  
 Asp Phe Gly Leu Ala Arg Arg Tyr Asn Pro Asn Glu Lys Leu Lys Val  
 35 40 45  
 Asn Phe Gly Thr Pro Glu Phe Leu Ser Pro Glu Val Val Asn Tyr Asp  
 50 55 60  
 Gln Ile Ser Asp Lys Thr Asp Met Trp Ser Met Gly Val Ile Thr Tyr  
 65 70 75 80  
 Met Leu Leu Ser Gly Leu Ser Pro Phe Leu Gly Asp Asp Asp Thr Glu  
 85 90 95  
 Thr Leu Asn Asn Val Leu Ser Gly Asn Trp Tyr Phe Asp Glu Glu Thr  
 100 105 110  
 Phe Glu Ala Val Ser Asp Glu Ala Lys Asp Phe Val Ser Asn Leu Ile  
 115 120 125  
 Val Lys Asp Gln Arg Ala Arg Met Asn Ala Ala Gln Cys Leu Ala His  
 130 135 140  
 Pro Trp Leu Asn Asn Leu Ala Glu Lys Ala Lys Arg Cys Asn Arg Arg  
 145 150 155 160  
 Leu Lys Ser Gln Ile Leu Leu Lys Lys Tyr Leu Met Lys Arg Arg Trp  
 165 170 175  
 Lys Lys Asn Phe Ile Ala Val Ser Ala Ala Asn Arg Phe Lys Lys Ile  
 180 185 190  
 Ser Ser Ser Gly Ala Leu Met Ala Leu Gly Val  
 195 200

<210> 3725  
 <211> 1244  
 <212> DNA  
 <213> Homo sapiens

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 120  
 gaccatcttc acttttgttt tcaggccttt aaaattgtgc cctacaacac agagaccctt  
 180  
 gataaactgc taaccgaatc cctgaagaac aatatccctg caagcggact gcacctcttt  
 240  
 ggaatcaacc agctggaaga agaagatatg atgacaaatc agagggatga agagctgccc  
 300

accctgttgc attttgctgc gaagtatgga ctgaagaacc tcaactgcctt gttgctcacc  
 360  
 tgcccaggag ccttgcaggc gtacagcgtg gccacaagc atggccacta cccaacacc  
 420  
 atcgctgaga aacacggctt cagggacctg cggcagttca tcgacgagta tgtggaaacg  
 480  
 gtggacatgc tcaagagtca cattaagag gaactgatgc acggggagga ggctgatgct  
 540  
 gtgtacgagt ccatggccca cctttccaca gacctgctta tgaaatgctc gctcaacccc  
 600  
 ggctgtgacg aggatctcta tgagtccatg gctgcctttg tccagctgc cactgaagac  
 660  
 ctctatgttg aaatgcttca ggccagtaca tctaaccxaa tccctggaga tggtttctct  
 720  
 cgggccacta aggactctat gatccgcaag tttttagaag gcaacagcat gggaatgacc  
 780  
 aatctggaga gagatcagtg ccatcttggt caggaagaag atgtttatca cacggtggat  
 840  
 gacgatgagg ccttttctgt ggacttggcc agcaggcccc ctgtcccagt gccagacca  
 900  
 gagaccactg ctcttggtgc tcaccagctg cctgacaacg aaccatacat ttttaaaggc  
 960  
 aagtatggca gggaatgatg tccaactggt tctttggagc ttctcaacag ggatttctct  
 1020  
 gatgacctgg ctttttgaac cattgctcag agactatccc cttctaaatg gtcttcaccc  
 1080  
 agccctacga gacaggggtc atatcctggg gccagattct ggagctagaa taggagtaat  
 1140  
 gaccagagtc agtgctggcc ttcttggaag tatttacgca cagttgcaaa ggcaggtaaa  
 1200  
 caagaccctt gatatatattt tatctcctga accccttcac gcgt  
 1244

&lt;210&gt; 3726

&lt;211&gt; 325

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3726

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Ile | His | Val | Ser | Gly | Lys | Asp | Ile | Thr | Arg | Lys | Pro | Glu | Ile | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gly | His | Val | Ile | Ser | Ala | His | Gly | Leu | Ser | Val | Leu | Asn | Leu | Arg | Asp |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Arg | Glu | Leu | Asp | Phe | Arg | Ser | Asp | His | Leu | His | Phe | Cys | Phe | Gln |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ala | Phe | Lys | Ile | Val | Pro | Tyr | Asn | Thr | Glu | Thr | Leu | Asp | Lys | Leu | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Thr | Glu | Ser | Leu | Lys | Asn | Asn | Ile | Pro | Ala | Ser | Gly | Leu | His | Leu | Phe |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Gly | Ile | Asn | Gln | Leu | Glu | Glu | Glu | Asp | Met | Met | Thr | Asn | Gln | Arg | Asp |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Glu | Glu | Leu | Pro | Thr | Leu | Leu | His | Phe | Ala | Ala | Lys | Tyr | Gly | Leu | Lys |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Asn | Leu | Thr | Ala | Leu | Leu | Leu | Thr | Cys | Pro | Gly | Ala | Leu | Gln | Ala | Tyr |

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      115              120              125
Ser Val Ala Asn Lys His Gly His Tyr Pro Asn Thr Ile Ala Glu Lys
      130              135              140
His Gly Phe Arg Asp Leu Arg Gln Phe Ile Asp Glu Tyr Val Glu Thr
      145              150              155              160
Val Asp Met Leu Lys Ser His Ile Lys Glu Glu Leu Met His Gly Glu
      165              170              175
Glu Ala Asp Ala Val Tyr Glu Ser Met Ala His Leu Ser Thr Asp Leu
      180              185              190
Leu Met Lys Cys Ser Leu Asn Pro Gly Cys Asp Glu Asp Leu Tyr Glu
      195              200              205
Ser Met Ala Ala Phe Val Pro Ala Ala Thr Glu Asp Leu Tyr Val Glu
      210              215              220
Met Leu Gln Ala Ser Thr Ser Asn Pro Ile Pro Gly Asp Gly Phe Ser
      225              230              235              240
Arg Ala Thr Lys Asp Ser Met Ile Arg Lys Phe Leu Glu Gly Asn Ser
      245              250              255
Met Gly Met Thr Asn Leu Glu Arg Asp Gln Cys His Leu Gly Gln Glu
      260              265              270
Glu Asp Val Tyr His Thr Val Asp Asp Asp Glu Ala Phe Ser Val Asp
      275              280              285
Leu Ala Ser Arg Pro Pro Val Pro Val Pro Arg Pro Glu Thr Thr Ala
      290              295              300
Pro Gly Ala His Gln Leu Pro Asp Asn Glu Pro Tyr Ile Phe Lys Gly
      305              310              315              320
Lys Tyr Gly Arg Glu
      325

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&lt;210&gt; 3727

&lt;211&gt; 630

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3727

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cggattcgag tcatcaagaa gaaaaagggtc attatgaaga agcgggaagaa gctaactcta
60
actcgccccca cccactggt gactgccggg ccccttgtga cccactcc agcagggacc
120
ctcgaccccg ctgagaaaca agaaacaggc tgcctcctt tgggtctgga gtccctgcga
180
gtttcagata gccggcttga ggcattcagc agccagtcc tgggtcttgg accacaccga
240
ggacggctca acattcagtc aggcctggag gacggcgatc tatatgatgg agcctggtgt
300
gctgaggagc aggacgccga tccatggttt caggtggacg ctgggcaccc caccgcctc
360
tcgggtgtta tcacacaggg caggaactct gtctggaggt atgactgggt cacatcatac
420
aaggtccagt tcagcaatga cagtcggacc tgggtgggaa gtaggaacca cagcagtggg
480
atggacgcag tatttctctgc caattcagac ccagaaactc cagtgtgaa cctcctgccg
540
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600

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ccttgccctcc gggcagagat cctggcctgc  
630

<210> 3728  
<211> 210  
<212> PRT  
<213> Homo sapiens

<400> 3728  
Arg Ile Arg Val Ile Lys Lys Lys Lys Val Ile Met Lys Lys Arg Lys  
1 5 10 15  
Lys Leu Thr Leu Thr Arg Pro Thr Pro Leu Val Thr Ala Gly Pro Leu  
20 25 30  
Val Thr Pro Thr Pro Ala Gly Thr Leu Asp Pro Ala Glu Lys Gln Glu  
35 40 45  
Thr Gly Cys Pro Pro Leu Gly Leu Glu Ser Leu Arg Val Ser Asp Ser  
50 55 60  
Arg Leu Glu Ala Ser Ser Ser Gln Ser Phe Gly Leu Gly Pro His Arg  
65 70 75 80  
Gly Arg Leu Asn Ile Gln Ser Gly Leu Glu Asp Gly Asp Leu Tyr Asp  
85 90 95  
Gly Ala Trp Cys Ala Glu Glu Gln Asp Ala Asp Pro Trp Phe Gln Val  
100 105 110  
Asp Ala Gly His Pro Thr Arg Phe Ser Gly Val Ile Thr Gln Gly Arg  
115 120 125  
Asn Ser Val Trp Arg Tyr Asp Trp Val Thr Ser Tyr Lys Val Gln Phe  
130 135 140  
Ser Asn Asp Ser Arg Thr Trp Trp Gly Ser Arg Asn His Ser Ser Gly  
145 150 155 160  
Met Asp Ala Val Phe Pro Ala Asn Ser Asp Pro Glu Thr Pro Val Leu  
165 170 175  
Asn Leu Leu Pro Glu Pro Gln Val Ala Arg Phe Ile Arg Leu Leu Pro  
180 185 190  
Gln Thr Trp Leu Gln Gly Gly Ala Pro Cys Leu Arg Ala Glu Ile Leu  
195 200 205  
Ala Cys  
210

<210> 3729  
<211> 1552  
<212> DNA  
<213> Homo sapiens

<400> 3729  
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cctcctccgc gcctcgcggc atggagtaga aagggaccgc ggaagccga aagcgaaggc  
120  
atcaagttat cagcagatgt caaaccattt gtccccagat ttgccggggt caatgtggca  
180  
tggttagagt cctcagaagc atgtgtcttc cccagctctg cagccacata ctatccgttt  
240  
gttcaggaac caccagtgc agagcagaaa atatatactg aagacatggc ctttggagct  
300

tcaacttttc cacctcagta tttatcttct gagataactc ttcattccata tgcctattct  
 360  
 ccttataccc ttgactccac acagaatgtt tactcagtgc ctggctccca gtatctttat  
 420  
 aaccaaccca gttgttaccg aggttttcaa acagtgaagc atcgaaatga gaacacatgc  
 480  
 cctctcccac aagaaatgaa agctctgttt aagaagaaaa cctatgatga gaaaaaacg  
 540  
 tatgatcagc aaaagtttga cagtgaagg gctgatggaa ctatatcatc tgagataaaa  
 600  
 tcagctagag gttcacatca tttgtccatt tacgctgaga atagtttgaa atcagatggg  
 660  
 taccataagc gaacagacag gaaatccaga atcattgcaa aaaatgtatc tacctccaaa  
 720  
 cctgagtttg aatttaccac actggacttt cctgaactgc aagggtgcaga gaacaatatg  
 780  
 tcagagatac agaagcaacc caagtgggga cctgtccact ctgtctctac cgacatttct  
 840  
 cttctaagag aagtagtaaa accagctgca gtgttatcaa aggggtgaaat agtgggtgaaa  
 900  
 aataacccaa atgaatctgt aactgcta atgctacca attctccttc atgtacaaga  
 960  
 gagttatctt ggacaccaat gggttatgtt gttcgacaga cattatctac agaactgtca  
 1020  
 gcagccccta aaaatgttac ttctatgata aacttaaaga ccattgcttc atcagcagat  
 1080  
 cctaaaaatg ttagtatacc atctttctgaa gctttatctt cggatccttc ctacaacaaa  
 1140  
 gaaaaacaca ttattcatcc taccacaaaag tctaaagcat cacaaggtag tgaccttgaa  
 1200  
 caaaatgaag cctcaagaaa gaataagaaa aagaagaaa aatctacatc aaaatatgaa  
 1260  
 gtccctgacag ttcaagagcc tccaaggatt gaagatgccg aggaatttcc caacctggca  
 1320  
 gttgcatctg aaagaagaga cagaatagag acaccgaaat ttcaatctaa gcagcagcca  
 1380  
 caggataatt ttaaaaataa tgtaaagaag agccagcttc cagtgcagtt ggacttgggg  
 1440  
 ggcatgctga cagccctgga gaagaagcag cactctcagc atgcaaagca gtccctccaaa  
 1500  
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 1552

<210> 3730

<211> 422

<212> PRT

<213> Homo sapiens

<400> 3730

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Phe | Gly | Ala | Ser | Thr | Phe | Pro | Pro | Gln | Tyr | Leu | Ser | Ser | Glu |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Ile | Thr | Leu | His | Pro | Tyr | Ala | Tyr | Ser | Pro | Tyr | Thr | Leu | Asp | Ser | Thr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Gln | Asn | Val | Tyr | Ser | Val | Pro | Gly | Ser | Gln | Tyr | Leu | Tyr | Asn | Gln | Pro |

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          35          40          45
Ser Cys Tyr Arg Gly Phe Gln Thr Val Lys His Arg Asn Glu Asn Thr
  50          55          60
Cys Pro Leu Pro Gln Glu Met Lys Ala Leu Phe Lys Lys Lys Thr Tyr
  65          70          75          80
Asp Glu Lys Lys Thr Tyr Asp Gln Gln Lys Phe Asp Ser Glu Arg Ala
          85          90          95
Asp Gly Thr Ile Ser Ser Glu Ile Lys Ser Ala Arg Gly Ser His His
          100          105          110
Leu Ser Ile Tyr Ala Glu Asn Ser Leu Lys Ser Asp Gly Tyr His Lys
          115          120          125
Arg Thr Asp Arg Lys Ser Arg Ile Ile Ala Lys Asn Val Ser Thr Ser
          130          135          140
Lys Pro Glu Phe Glu Phe Thr Thr Leu Asp Phe Pro Glu Leu Gln Gly
          145          150          155          160
Ala Glu Asn Asn Met Ser Glu Ile Gln Lys Gln Pro Lys Trp Gly Pro
          165          170          175
Val His Ser Val Ser Thr Asp Ile Ser Leu Leu Arg Glu Val Val Lys
          180          185          190
Pro Ala Ala Val Leu Ser Lys Gly Glu Ile Val Val Lys Asn Asn Pro
          195          200          205
Asn Glu Ser Val Thr Ala Asn Ala Ala Thr Asn Ser Pro Ser Cys Thr
          210          215          220
Arg Glu Leu Ser Trp Thr Pro Met Gly Tyr Val Val Arg Gln Thr Leu
          225          230          235          240
Ser Thr Glu Leu Ser Ala Ala Pro Lys Asn Val Thr Ser Met Ile Asn
          245          250          255
Leu Lys Thr Ile Ala Ser Ser Ala Asp Pro Lys Asn Val Ser Ile Pro
          260          265          270
Ser Ser Glu Ala Leu Ser Ser Asp Pro Ser Tyr Asn Lys Glu Lys His
          275          280          285
Ile Ile His Pro Thr Gln Lys Ser Lys Ala Ser Gln Gly Ser Asp Leu
          290          295          300
Glu Gln Asn Glu Ala Ser Arg Lys Asn Lys Lys Lys Glu Lys Ser
          305          310          315          320
Thr Ser Lys Tyr Glu Val Leu Thr Val Gln Glu Pro Pro Arg Ile Glu
          325          330          335
Asp Ala Glu Glu Phe Pro Asn Leu Ala Val Ala Ser Glu Arg Arg Asp
          340          345          350
Arg Ile Glu Thr Pro Lys Phe Gln Ser Lys Gln Gln Pro Gln Asp Asn
          355          360          365
Phe Lys Asn Asn Val Lys Lys Ser Gln Leu Pro Val Gln Leu Asp Leu
          370          375          380
Gly Gly Met Leu Thr Ala Leu Glu Lys Lys Gln His Ser Gln His Ala
          385          390          395          400
Lys Gln Ser Ser Lys Pro Val Val Val Ser Val Gly Ala Val Pro Val
          405          410          415
Leu Ser Lys Glu Cys Ala
          420

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&lt;210&gt; 3731

&lt;211&gt; 1704

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3731

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120  
tgtgcagtgc tgctcccagc atcactgttc gtcaatagtc acccaggaat agaccggcct  
180  
ggcatgctct gcagtttccg gatccctggg gcctgggcct gtgcctgggc cctgaatata  
240  
caagcaaata actgcttcag tacaggcttg tctcggcggg tcctgttgac caacgtgggtg  
300  
acgggacacc ggcagtcctt tgggaccaac agtgatgtct tggcccagca gtttgctctc  
360  
atggctctct tgctgtttta tggctgccgc tctggggaaa tctttgccat tgatctcgct  
420  
tgtggaaatc aaggcaaggg atggaaggcc acccgctgt ttcattgattc agcagtgacc  
480  
tctgtgcgga tcctccaaga tgagcaatac ctgatggctt cagacatggc tggaaagatc  
540  
aagctgtggg acctgaggac cacgaagtgc gtaaggcagt acgaaggcca cgtgaatgag  
600  
tacgcctacc tgcccctgca tgtgcacgag gaagaaggaa tcctggtggc agtggggccag  
660  
gactgctaca cgagaatctg gagcctccac gatgccgcgc tactgagaac catacctccc  
720  
ccgtaccctg cctccaaggc cgacattccc agtgtggcct tctcgtcgcg gctggggggc  
780  
tcccggggcg cgccggggct gctcatggct gtccggcagg acctttactg ttactcctac  
840  
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900  
aactttttac tgcatctaata gaggggtgtt taagtgcac tcagtgtaca cagatcccat  
960  
cctctggctg ctaggagaga agtgctgaat gttccgtgtg gagatgctca ggaaagtatt  
1020  
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1080  
cttttcttat tgaattctta gaacttagtt aaccctccct gccttttctt aacaaaaagg  
1140  
acttttctaa ggactgaaga ttggcaaaaa cgaaaagctt ctctctccaa gagcccattg  
1200  
aagaagccca gtgatgagac ggtgagatgg tttgagtcct cgggtgcctgg gtagcaggaa  
1260  
gaaagacctg catcctgcat ctgtacttgg ggaagccagc ggagaggacg gggagggttac  
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1380  
ctcaaactca gcagcagatc tccgggattc tgctgttatt atccaaaggc gttggaagga  
1440  
aagatggatc ttcttacatg ctagaagttt taaacggctc ttaacatgcc tttgttcaag  
1500  
caccttccag aatgtaaggt tcagcagctc tggtttctat tacgggtgact tgaatgtcag  
1560

attcaagggc ccggcgtcaa aggaaattgg ttttgacttt ttgtaatcta ggagcgacag  
 1620  
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 1680  
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 1704

<210> 3732

<211> 281

<212> PRT

<213> Homo sapiens

<400> 3732

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Tyr | Val | Leu | Arg | Asn | Leu | Tyr | Val | Pro | Asn | Arg | Lys | Val | Lys | Ser | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Cys | Trp | Ala | Ser | Leu | Asn | Gln | Leu | Asp | Ser | His | Val | Leu | Leu | Cys | Phe |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Gly | Ile | Thr | Asp | Ala | Ser | Ser | Cys | Ala | Val | Leu | Leu | Pro | Ala | Ser |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu | Phe | Val | Asn | Ser | His | Pro | Gly | Ile | Asp | Arg | Pro | Gly | Met | Leu | Cys |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ser | Phe | Arg | Ile | Pro | Gly | Ala | Trp | Ser | Cys | Ala | Trp | Ser | Leu | Asn | Ile |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Gln | Ala | Asn | Asn | Cys | Phe | Ser | Thr | Gly | Leu | Ser | Arg | Arg | Val | Leu | Leu |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Thr | Asn | Val | Val | Thr | Gly | His | Arg | Gln | Ser | Phe | Gly | Thr | Asn | Ser | Asp |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Val | Leu | Ala | Gln | Gln | Phe | Ala | Leu | Met | Ala | Pro | Leu | Leu | Phe | Asn | Gly |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Cys | Arg | Ser | Gly | Glu | Ile | Phe | Ala | Ile | Asp | Leu | Arg | Cys | Gly | Asn | Gln |
|     |     |     | 130 |     |     |     | 135 |     |     |     | 140 |     |     |     |     |
| Gly | Lys | Gly | Trp | Lys | Ala | Thr | Arg | Leu | Phe | His | Asp | Ser | Ala | Val | Thr |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Ser | Val | Arg | Ile | Leu | Gln | Asp | Glu | Gln | Tyr | Leu | Met | Ala | Ser | Asp | Met |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Ala | Gly | Lys | Ile | Lys | Leu | Trp | Asp | Leu | Arg | Thr | Thr | Lys | Cys | Val | Arg |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Gln | Tyr | Glu | Gly | His | Val | Asn | Glu | Tyr | Ala | Tyr | Leu | Pro | Leu | His | Val |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| His | Glu | Glu | Glu | Gly | Ile | Leu | Val | Ala | Val | Gly | Gln | Asp | Cys | Tyr | Thr |
|     |     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Arg | Ile | Trp | Ser | Leu | His | Asp | Ala | Arg | Leu | Leu | Arg | Thr | Ile | Pro | Ser |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Pro | Tyr | Pro | Ala | Ser | Lys | Ala | Asp | Ile | Pro | Ser | Val | Ala | Phe | Ser | Ser |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Arg | Leu | Gly | Gly | Ser | Arg | Gly | Ala | Pro | Gly | Leu | Leu | Met | Ala | Val | Gly |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |
| Gln | Asp | Leu | Tyr | Cys | Tyr | Ser | Tyr | Ser |     |     |     |     |     |     |     |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     |     |     |     |     |

<210> 3733

<211> 515

<212> DNA

<213> Homo sapiens

&lt;400&gt; 3733

nngggccgag ctgtccgacg tgctactgca gggacccgcc cggggtgggt ctggggctct  
 60  
 cgctaccgga gagggaggag aagggggagg ttaaagggga aggaccccg aagtgtcccc  
 120  
 tcctcagtgc gggagaggga gacgccgggg gcangtccat gcctcccgcg gcgtgggttg  
 180  
 tgcgtcccag gtgacgtcag aagcagcccc ccctgcctg gatgggtgcg cctgagtga  
 240  
 gtcaggagca gaggccggag ctgtccatca gcaccaaagg ccgcgggcgg gctcagggca  
 300  
 tggggccgcg gttctggggc ggcccagacc ccggctcctg cgccttcccc ttcctcaggc  
 360  
 nccagcccga gttcccggac gccgcgggac tggagtgcc gccggtgttg gacgtggagc  
 420  
 ggcgccgcca ccgcgccgac accattctct ccggcccagc agcccccttc ctgcacgac  
 480  
 ggactttccc tggacccag tcagttggag cctct  
 515

&lt;210&gt; 3734

&lt;211&gt; 171

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3734

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Gly | Arg | Ala | Val | Arg | Arg | Val | Thr | Ala | Gly | Thr | Arg | Pro | Gly | Trp |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Val | Ser | Gly | Ser | Arg | Tyr | Arg | Arg | Gly | Arg | Arg | Arg | Gly | Arg | Leu | Lys |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Lys | Asp | Pro | Gly | Ser | Ala | Pro | Ser | Ser | Val | Arg | Glu | Arg | Glu | Thr |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Pro | Gly | Ala | Xaa | Pro | Cys | Leu | Pro | Arg | Arg | Gly | Trp | Cys | Val | Pro | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asp | Val | Arg | Ser | Ser | Pro | Pro | Leu | Pro | Gly | Trp | Cys | Ala | Leu | Ser | Asp |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Val | Arg | Ser | Arg | Gly | Arg | Ser | Cys | Pro | Ser | Ala | Pro | Lys | Ala | Ala | Gly |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Gly | Leu | Arg | Ala | Trp | Gly | Arg | Gly | Ser | Gly | Ala | Ala | Arg | Ala | Pro | Ala |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Pro | Ala | Pro | Ser | Pro | Ser | Ser | Gly | Xaa | Ser | Pro | Ser | Ser | Arg | Thr | Pro |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Arg | Asp | Trp | Ser | Ala | Ser | Arg | Cys | Trp | Thr | Trp | Ser | Gly | Ala | Ala | Thr |
|     | 130 |     |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |
| Ala | Pro | Thr | Pro | Phe | Ser | Pro | Ala | Gln | Gln | Pro | Pro | Ser | Ser | His | Asp |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Gly | Leu | Ser | Leu | Asp | Pro | Ser | Gln | Leu | Glu | Pro |     |     |     |     |     |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     |     |     |

&lt;210&gt; 3735

&lt;211&gt; 2512

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3735

ngcagggttct tcggaaggct tgtagctcca aaatggatcg ccagagtgtt ctccatgtac  
60  
tgggcatatt gaaaaactcc aaattttctca aagtctgcct gcctgcttat gtggtaggga  
120  
tgatcactga acccatccct gacatccgaa accagtatcc agagcacata agcaacatca  
180  
tctccctcct ccaggacctt gtaagtgtct tccctgccag ctctgtgcag gaaacttoca  
240  
tgctggtttc cctcctgcc aacctctotta atgctctgag agcctctggt gttgacatag  
300  
aagaggaaac ggagaagaac ctggaaaagg tacagactat cattgaacat ctgcaggaaa  
360  
agaggcgaga gggcactttg agagtggata cctacactct agtgcagcct gaggcagaag  
420  
accatgttga gagctaccga accatgcccc tttaccctac ctacaatgaa gtgcacttgg  
480  
atgagaggcc cttccttcgc cccaatatca tttctggaaa atacgacagc actgctatct  
540  
atctggatac ccacttcgag ctcctgcgag aagatttcgt cagaccttta cgggaaggta  
600  
ttttggaact tctccaaagc tttgaagacc agggcctgag gaagagaaag tttgatgaca  
660  
tccgaatcta ctttgacacc aggattatca ccccatgtg ttcacatca ggcatagtct  
720  
acaaggtgca gtttgacaca aaaccactga agtttggttcg ctggcagaat tccaaacgat  
780  
tgctctatgg gtctttggta tgcattgtcca aggacaactt cgagacattt ctttttgcca  
840  
ccgtatctaa caggagcag gaagatctct gccgaggaat tgtccagctc tgcttcaatg  
900  
agcaaagcca acagctgcta gcagaggtcc agccctctga ctctttcctc atggtagaga  
960  
caactgcata ctttgaggcc tacaggcacg tccctggaagg actccaggag gtccaggagg  
1020  
aagatgttcc cttccagagg aatatcgtgg agtgtaactc tcatgtgaag gagccaagg  
1080  
acttgcta atgggggcaga tatgacttta ccccttaat agagaatcct tcagccactg  
1140  
gggaatttct aagaaatgtc gaggggttga gacatcccag aattaatgtc ttagatcctg  
1200  
gccagtggcc ctcaaaagaa gccctgaagc tggatgactc ccagatggaa gccttgagc  
1260  
ttgctctcac aagggaactg gctattattc aaggacctcc tggaaacaggc aaaacctatg  
1320  
tgggtctaaa aattgttcag gccctcctaa ccaacgagtc tgtttggcaa attagcctcc  
1380  
agaagtcccc catcttggtt gtgtgttata ctaatcatgc tttggaccag tttctggaag  
1440  
gcactacaaa ttgtcagaag accagcattg tgcgggtggg tggaggagc aacagtga  
1500  
tcctgaagca gttcaccta agggagctga ggaacaagc ggaattccgc cgcaacctcc  
1560

ccatgcacct ccgaagggcc tacatgagta tcatgacaca gatgaaggag tcagagcaag  
 1620  
 agcttcatga aggagccaag accctggagt gcaccatgcg tgggtgtccta cggaacagt  
 1680  
 acctgcagaa gtacatctca cccagcact gggaaagtct catgaatgga ccagtgcagg  
 1740  
 atagtgaatg gatttgcttc cagcactgga agcattccat gatgctggag tggctaggtc  
 1800  
 ttggtgtcgg ttctttcacg caaagtgttt ctccagcagg acctgagaat acagcccagg  
 1860  
 cagaagggga tgaggaggaa gaaggggagg aggagagtgc gctgatagag atcgagagg  
 1920  
 aagctgacct gattcaagca gaccgggtga ttgaggagga agaggtggtg aggccccagc  
 1980  
 ggcggaagaa ggaagagagt ggagcagacc aggagtgggc taaaatgctt ctggccatga  
 2040  
 ggctagacca ttgtggcact gggacagcag ctggacagga gcaagccaca ggagagtggc  
 2100  
 agaccagcg caaccagaa aaagaaaatg aaaaaagag tgaaggatga gcttcgcaa  
 2160  
 ctgaacacca tgctgcagc cgaggccaac gagatcgagg atgtttggca cctggacctc  
 2220  
 agttctcgct ggcagcttta taggctctgg ctacagttgt accaggctga cccccgccc  
 2280  
 gggaagatcc tcagctatga acgccagtac cgcacatcag cagaaagaat ggccgagctg  
 2340  
 agactccagg aagacctgca cattcttaaa gatgccagg ttgtaggaat gacaaccaca  
 2400  
 ggtgctgcca aataccgcca gatcctacag aaggtggagc cgaggattgt catagtggaa  
 2460  
 gaagctgcgg aagtccttga ggccataacc attgccacat tgagcaaagc tt  
 2512

<210> 3736

<211> 155

<212> PRT

<213> Homo sapiens

<400> 3736

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Ile | Val | Ala | Leu | Gly | Gln | Gln | Leu | Asp | Arg | Ser | Lys | Pro | Gln | Glu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Gly | Arg | Pro | Ser | Ala | Thr | Gln | Lys | Lys | Lys | Met | Lys | Lys | Arg | Val |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Lys | Asp | Glu | Leu | Arg | Lys | Leu | Asn | Thr | Met | Pro | Ala | Ala | Glu | Ala | Asn |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Glu | Ile | Glu | Asp | Val | Trp | His | Leu | Asp | Leu | Ser | Ser | Arg | Trp | Gln | Leu |
|     |     |     | 50  |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Tyr | Arg | Leu | Trp | Leu | Gln | Leu | Tyr | Gln | Ala | Asp | Thr | Pro | Pro | Gly | Lys |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ile | Leu | Ser | Tyr | Glu | Arg | Gln | Tyr | Arg | Thr | Ser | Ala | Glu | Arg | Met | Ala |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Glu | Leu | Arg | Leu | Gln | Glu | Asp | Leu | His | Ile | Leu | Lys | Asp | Ala | Gln | Val |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |
| Val | Gly | Met | Thr | Thr | Thr | Gly | Ala | Ala | Lys | Tyr | Arg | Gln | Ile | Leu | Gln |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 115 |     | 120 |     | 125 |     |     |     |     |     |     |     |     |     |     |
| Lys | Val | Glu | Pro | Arg | Ile | Val | Ile | Val | Glu | Glu | Ala | Ala | Glu | Val | Leu |
|     | 130 |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |     |
| Glu | Ala | His | Thr | Ile | Ala | Thr | Leu | Ser | Lys | Ala |     |     |     |     |     |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     |     |

&lt;210&gt; 3737

&lt;211&gt; 1046

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3737

```

ngtgcgtgtgg ctgcaggtcg gcaggtggca gccccatgcc caggtgcctg cgtatgctac
60
aatgagccca aggtgacgac aagctgcccc cagcagggcc tgcaggtgtg gcccggtggc
120
atccctgctg ccagccagcg catcttcctg cacggcaacc gcatctcgca tgtgccagct
180
gccagcttcc gtgcctgcgg caacctcacc atcctgtggc tgcactcgaa tgtgctggcc
240
cgaattgatg cggctgcctt cactggcctg gccctcctgg gagcactgga cctcagcgat
300
aatgcacagc tccggtctgt ggacctgcc acattccacg gcctggggcg cctacacacg
360
ctgcacctgg accgctgcgg cctgcaggag ctggggcccg ggctgttcgg cggcctggct
420
gccctgcagt acctctacct gcaggacaac gcgctgcagg cactgcctga tgacaccttc
480
cgcgacctgg gcaacctcac acacctcttc ctgcacggca accgcatctc cagcgtgccc
540
gagcgcgcct tccgtgggct gcacagcctc gaccgtctcc tactgcacca gaaccgcgtg
600
gccccatgtg acccgcatgc ctccgctgac cttggccgcc tcatgacact ctatctgttt
660
gccaacaatc tatcagcgct gccactgag gccctggccc cctgcgtgc cctgcagtac
720
ctgaggctca acgacaaccc ctgggtgtgt gactgccggg cagcccact ctgggcctgg
780
ctgcagaagt tccgcggctc ctctccgag gtgccctgca gcctcccga acgcctggct
840
ggcctgacc tcaaacgcct agctgccaat gacctgcagg gctgcgctgt ggccaccggc
900
ccttaccatc ccatctggac cggcagggcc accgatgagg agccgctggg gcttcccaag
960
tgctgccagc cagatgccgc tgacaaggcc tcagtactgg agcctggaag accagcttcg
1020
gcaggcaatg cgctgaaggg acgcgt
1046

```

&lt;210&gt; 3738

&lt;211&gt; 348

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3738

```

Xaa Ala Val Ala Ala Gly Trp Gln Val Ala Ala Pro Cys Pro Gly Ala
 1          5          10          15
Cys Val Cys Tyr Asn Glu Pro Lys Val Thr Thr Ser Cys Pro Gln Gln
 20          25          30
Gly Leu Gln Ala Val Pro Val Gly Ile Pro Ala Ala Ser Gln Arg Ile
 35          40          45
Phe Leu His Gly Asn Arg Ile Ser His Val Pro Ala Ala Ser Phe Arg
 50          55          60
Ala Cys Arg Asn Leu Thr Ile Leu Trp Leu His Ser Asn Val Leu Ala
 65          70          75          80
Arg Ile Asp Ala Ala Ala Phe Thr Gly Leu Ala Leu Leu Gly Ala Leu
 85          90          95
Asp Leu Ser Asp Asn Ala Gln Leu Arg Ser Val Asp Pro Ala Thr Phe
100          105          110
His Gly Leu Gly Arg Leu His Thr Leu His Leu Asp Arg Cys Gly Leu
115          120          125
Gln Glu Leu Gly Pro Gly Leu Phe Arg Gly Leu Ala Ala Leu Gln Tyr
130          135          140
Leu Tyr Leu Gln Asp Asn Ala Leu Gln Ala Leu Pro Asp Asp Thr Phe
145          150          155          160
Arg Asp Leu Gly Asn Leu Thr His Leu Phe Leu His Gly Asn Arg Ile
165          170          175
Ser Ser Val Pro Glu Arg Ala Phe Arg Gly Leu His Ser Leu Asp Arg
180          185          190
Leu Leu Leu His Gln Asn Arg Val Ala His Val His Pro His Ala Phe
195          200          205
Arg Asp Leu Gly Arg Leu Met Thr Leu Tyr Leu Phe Ala Asn Asn Leu
210          215          220
Ser Ala Leu Pro Thr Glu Ala Leu Ala Pro Leu Arg Ala Leu Gln Tyr
225          230          235          240
Leu Arg Leu Asn Asp Asn Pro Trp Val Cys Asp Cys Arg Ala Arg Pro
245          250          255
Leu Trp Ala Trp Leu Gln Lys Phe Arg Gly Ser Ser Ser Glu Val Pro
260          265          270
Cys Ser Leu Pro Gln Arg Leu Ala Gly Arg Asp Leu Lys Arg Leu Ala
275          280          285
Ala Asn Asp Leu Gln Gly Cys Ala Val Ala Thr Gly Pro Tyr His Pro
290          295          300
Ile Trp Thr Gly Arg Ala Thr Asp Glu Glu Pro Leu Gly Leu Pro Lys
305          310          315          320
Cys Cys Gln Pro Asp Ala Ala Asp Lys Ala Ser Val Leu Glu Pro Gly
325          330          335
Arg Pro Ala Ser Ala Gly Asn Ala Leu Lys Gly Arg
340          345

```

&lt;210&gt; 3739

&lt;211&gt; 1252

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3739

```

tcaccccttat cttcgctcatt ttctgggctg agcttttttgg acaaggtgct gtgccagtct
60

```

acacccctca gccagctgtt cttggaggtc ctgccctgg gacttgtccg gctcatccag  
 120  
 agtgaggagg gcctggagat gctcattcaa tgagcgggag gcacctctcc cttcccgtaa  
 180  
 cttctccctt aactgggtca gctctcggtc ctgagagtga accaggactt tatattgctg  
 240  
 tatttcttct gtcgggtggc caggaagccg gccagttgag ttagaaaaca tctctctttg  
 300  
 aggtttctga actgctgttt gttctctgcc aactgggggc gcaatttctc gttgatttct  
 360  
 agaatgttca tctctgcctt ctgctggac aaagggcccg ctgataccac catgctgacg  
 420  
 tttgtggcag aagaggtgga gtcagggact tactgttgtg aaaaatgtga tcaactcccca  
 480  
 cagcacttta ggatccttca ccacaaaaac aaggttcgag gtgcctcaac tcagagctga  
 540  
 aagcactgcc agtagctcag actctgataa gagtgaggta gattgtggcc agcgtgccag  
 600  
 gtaaccgtct tgatccatag gctcacatth gatcccaact ggcggtgct tcttggcatt  
 660  
 aactttggat tcccaaccag taaatcttag caagatctga gtttctccag gtatgatatt  
 720  
 attttgtttg accatcctta tcttcaaggg ctgttggatc tggcagctct tgatgtcagc  
 780  
 ccacaccatg tgaggctgct cttggtgcac cgaatgggga agtttctaca tcagggcctc  
 840  
 ggagaatcca ctggaagccc tggacagtgg gagtcagcgg cacccccagt gtggaggcca  
 900  
 agagcacaca gcaactgaagc tccaggacac cctcaggagg acggcaaggg acaattggct  
 960  
 ggtgagagcc cgggtcaccg ggaaccttcg cctgggtcta aacaggattt gccttcagat  
 1020  
 tgccctcagaa acgctgggtg gacttcgctt aacttcccat tcacagggca gccggcagcc  
 1080  
 ggcgcgcgcg gcctcgccc agctcctggc gccgcagatc gcccgctccg cgttcccaaa  
 1140  
 agccccgcgc tcgctcagaa gctcgggcag cctcgcgacc ctcacctacc cctcccaata  
 1200  
 tcgcccgtgt ctcaaccgcc gccagccca tagcctgcgg ccagctggat cc  
 1252

<210> 3740

<211> 139

<212> PRT

<213> Homo sapiens

<400> 3740

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Lys | Phe | Leu | His | Gln | Gly | Leu | Gly | Glu | Ser | Thr | Gly | Ser | Pro |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gly | Gln | Trp | Glu | Ser | Ala | Ala | Pro | Pro | Val | Trp | Arg | Pro | Arg | Ala | His |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Thr | Glu | Ala | Pro | Gly | His | Pro | Gln | Glu | Asp | Gly | Lys | Gly | Gln | Leu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ala | Gly | Glu | Ser | Pro | Gly | His | Arg | Glu | Pro | Ser | Pro | Gly | Ser | Lys | Gln |

```

      50              55              60
Asp Leu Pro Ser Asp Cys Leu Arg Asn Ala Gly Trp Thr Ser Arg Asn
65              70              75              80
Phe Pro Phe Thr Gly Gln Pro Ala Ala Ala Pro Pro Arg Leu Gly Pro
      85              90              95
Ala Pro Gly Ala Ala Asp Arg Pro Ser Arg Val Pro Lys Ser Pro Ala
      100              105              110
Leu Ala Gln Lys Leu Gly Gln Pro Arg Asp Pro His Leu Pro Leu Pro
      115              120              125
Ile Ser Pro Leu Ser Gln Pro Pro Pro Ser Pro
      130              135

```

&lt;210&gt; 3741

&lt;211&gt; 562

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3741

```

cagacagcaa ggcagggccc agctcctcaa ggccacctcc gacctcggcg gggtaggggca
60
gtcgtgtcca ctgtggggat ccacgtcctg actaaccttg tgttcctaga aatccctcac
120
cggcagatcg gtgcctcctg aatccccaccc aaaattccca ctgggaatgt gttcctgaaa
180
gagctgcccc ggcttgagaa agcctctttt cagaccaaac ttcgtattca aagctcaaaa
240
agaactgcac acaattagga cagtcataca agatgctgcc cctaattctg ccacaatctg
300
cgagaaggga ggcgggggctt ccgaggggcaa agtgcccctg ggaagggatc cgcaggggaa
360
agcttttga aa ggaccacagc cccagccac gaggggagca agcacgagcc ggggagagag
420
ctctgcgtc gcacacggga ttcattctcg ccgctctgc ccgtttccag caacacggag
480
ccaggcgga acagtttctc cagccattc gcctccccga ctcttctct cagggcacgg
540
ctgggctgct ttcattcacgc gt
562

```

&lt;210&gt; 3742

&lt;211&gt; 138

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3742

```

Met Gly Trp Arg Asn Cys Phe Arg Leu Ala Pro Cys Cys Trp Lys Arg
1              5              10              15
Ala Glu Ala Ala Glu Met Asn Pro Val Cys Glu Arg Arg Ala Leu Ser
      20              25              30
Pro Ala Arg Ala Cys Ser Pro Arg Gly Trp Gly Leu Trp Ser Phe Gln
      35              40              45
Ser Cys Ser Leu Arg Ile Pro Ser Gln Gly His Phe Ala Leu Gly Ser
      50              55              60
Pro Ala Ser Leu Leu Ala Asp Cys Gly Arg Ile Arg Gly Ser Ile Leu

```

```

65              70              75              80
Tyr Asp Cys Pro Asn Cys Val Gln Phe Phe Leu Ser Phe Glu Tyr Glu
              85              90              95
Val Trp Ser Glu Lys Arg Leu Ser Gln Ala Trp Ala Ala Leu Ser Gly
              100              105              110
Thr His Ser Gln Trp Glu Phe Trp Val Gly Phe Arg Arg His Arg Ser
              115              120              125
Ala Gly Glu Gly Phe Leu Gly Thr Gln Gly
              130              135

```

&lt;210&gt; 3743

&lt;211&gt; 468

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3743

```

nntcatgagc cttcttataca gctccatttt ggcaaggcgc tgacaatggc ggaggctgaa
60
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360
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468

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&lt;210&gt; 3744

&lt;211&gt; 134

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3744

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              20              25              30
Asn Met Ala Glu Thr His Lys Ala Met Ile Leu Gln Leu Asn Pro Ser
              35              40              45
Glu Asn Cys Thr Trp Thr Ile Glu Arg Pro Glu Asn Lys Ser Ile Arg
              50              55              60
Ile Ile Phe Ser Tyr Val Gln Leu Asp Pro Asp Gly Ser Cys Glu Ser
65              70              75              80
Glu Asn Ile Lys Val Phe Asp Gly Thr Ser Ser Asn Gly Pro Leu Leu
              85              90              95
Gly Gln Val Cys Ser Lys Asn Asp Tyr Val Pro Val Phe Glu Ser Ser
              100              105              110
Ser Ser Thr Leu Thr Phe Gln Ile Val Thr Asp Ser Ala Arg Ile Gln

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120

125

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<212> DNA  
<213> Homo sapiens

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180  
gagaacacag ccatgcagcc cccgatcctg cagccacagc cacggcatcg cctggtcgga  
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345

<210> 3746  
<211> 102  
<212> PRT  
<213> Homo sapiens

<400> 3746  
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35 40 45  
Arg Thr Gln Pro Cys Ser Pro Arg Ser Cys Ser His Ser His Gly Ile  
50 55 60  
Ala Trp Ser Asp Ala Ala Ser Ala Pro Asp Ala Ser Arg Cys Arg Cys  
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Arg His Val Trp Ala Asp  
100

<210> 3747  
<211> 800  
<212> DNA  
<213> Homo sapiens

<400> 3747  
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120

aagggggcgc gcccgccac tttctgctg agccccgcac cctctctggt ggtctctct  
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&lt;210&gt; 3748

&lt;211&gt; 138

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3748

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gln | Met | Arg | Phe | Asp | Gly | Arg | Leu | Gly | Phe | Pro | Gly | Gly | Phe | Val |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Asp | Thr | Gln | Asp | Arg | Ser | Leu | Glu | Asp | Gly | Leu | Asn | Arg | Glu | Leu | Arg |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Glu | Leu | Gly | Glu | Ala | Ala | Ala | Ala | Phe | Arg | Val | Glu | Arg | Thr | Asp |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Tyr | Arg | Ser | Ser | His | Val | Gly | Val | Arg | Ala | Thr | Arg | Cys | Gly | Pro | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Leu | Cys | Gln | Ala | Ser | Asp | Ala | Arg | Gly | Ala | Val | Gly | Cys | Gly | Gly | Arg |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Arg | Asn | Thr | Arg | Gln | Gly | Pro | Arg | Ala | Gly | Gly | Gly | Thr | Ser | Leu | Gly |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Leu | Cys | Pro | Phe | Pro | Asn | Phe | Leu | Phe | Ser | Gln | Ser | Phe | Leu | Ser | Pro |
|     |     |     | 100 |     |     |     |     |     | 105 |     |     |     | 110 |     |     |
| Lys | Lys | Ala | Ser | Leu | Glu | Lys | Ser | Leu | Cys | Pro | Ser | Asp | Leu | Ala | Leu |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ser | Pro | Ala | Phe | Leu | Val | Glu | Leu | Gly | Ser |     |     |     |     |     |     |
|     |     |     | 130 |     |     |     | 135 |     |     |     |     |     |     |     |     |

&lt;210&gt; 3749

&lt;211&gt; 648

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3749

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360  
ttccacctgc atccccaca tcacctgaa gatgacttcc tgagccagcc cccagccaca  
420  
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480  
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540  
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648

&lt;210&gt; 3750

&lt;211&gt; 105

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3750

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Ala | Pro | Trp | Glu | Asp | Pro | Ala | Lys | Trp | Val | Met | Asp | Thr | Tyr | Pro |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Trp | Ala | Ala | Ser | Pro | Gln | Gln | His | Glu | Trp | Pro | Pro | Leu | Leu | Gln | Leu |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Arg | Pro | Glu | Asp | Val | Gly | Phe | Asp | Gly | Tyr | Ser | Met | Pro | Arg | Glu | Gly |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Ser | Thr | Ser | Lys | Gln | Met | Pro | Pro | Ser | Asp | Ala | Glu | Gly | Asp | Pro | Leu |
|     | 50  |     |     |     | 55  |     |     |     |     |     | 60  |     |     |     |     |
| Met | Asn | Met | Leu | Met | Arg | Leu | Gln | Glu | Ala | Ala | Asn | Tyr | Ser | Ser | Pro |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Gln | Ser | Tyr | Asp | Ser | Asp | Ser | Asn | Ser | Asn | Ser | His | His | Asp | Asp | Ile |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Leu | Asp | Ser | Ser | Leu | Glu | Ser | Thr | Leu |     |     |     |     |     |     |     |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     |     |     |

&lt;210&gt; 3751

&lt;211&gt; 554

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3751

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 554

<210> 3752

<211> 66

<212> PRT

<213> Homo sapiens

<400> 3752

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Arg | Leu | Ser | Ala | Leu | Ala | Arg | Ala | Leu | Ala | Gly | Pro | Pro | Pro | Arg |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Pro | His | His | Gly | Pro | Gly | Pro | Ala | Ala | Ala | Arg | Gly | Ser | Val | Ala | Pro |
|     |     |     | 20  |     |     |     | 25  |     |     |     |     |     | 30  |     |     |
| Ser | Gly | Ala | Lys | Gly | Val | Ser | Tyr | Thr | Gln | Gly | Gln | Ser | Pro | Glu | Pro |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Arg | Thr | Arg | Glu | Val | Phe | Leu | Leu | Arg | Gly | Pro | Pro | Gly | Pro | Ala | Phe |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Pro | Gly |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 65  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 3753

<211> 1426

<212> DNA

<213> Homo sapiens

<400> 3753

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 360

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 1426

&lt;210&gt; 3754

&lt;211&gt; 261

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3754

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asp | Glu | Ala | Leu | Glu | Thr | Gln | Leu | Lys | Thr | Ser | Arg | Gly | Arg | Phe |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Ala | Thr | Glu | Ser | Leu | Pro | Thr | Leu | Glu | Leu | Leu | Ser | Gln | Val | Asp |
|     |     |     | 20  |     |     |     |     |     | 25  |     |     |     | 30  |     |     |
| Met | Asp | Cys | Arg | Val | His | Met | Arg | Pro | Ile | Gly | Leu | Thr | Trp | Val | Leu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gln | Leu | Thr | Leu | Ala | Trp | Ile | Leu | Leu | Glu | Ala | Cys | Gly | Gly | Ser | Arg |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Pro | Leu | Gln | Ala | Arg | Ser | Gln | Gln | His | His | Gly | Leu | Ala | Ala | Asp | Leu |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Gly | Lys | Gly | Lys | Leu | His | Leu | Ala | Gly | Pro | Cys | Cys | Pro | Ser | Glu | Met |



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&lt;210&gt; 3756

&lt;211&gt; 199

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3756

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Met Asn Leu Cys Ser Lys Cys Phe Ala Asp Phe Gln Lys Lys Gln Pro
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          20             25             30
Ser Glu Glu Thr Thr Ser Asp Asn Asn Asn Thr Ser Ile Thr Thr Pro
      35             40             45
Thr Leu Ser Pro Ser Gln Gln Pro Leu Pro Thr Glu Leu Asn Val Thr
      50             55             60
Ser Pro Ser Lys Glu Glu Cys Gly Pro Cys Thr Asp Thr Ala His Val
65             70             75             80
Ser Leu Ile Thr Pro Thr Lys Arg Ser Cys Gly Thr Asp Ser Gln Ser
          85             90             95
Glu Asn Glu Ala Ser Pro Val Lys Arg Pro Arg Leu Leu Glu Asn Thr
      100             105             110
Glu Arg Ser Glu Glu Thr Ser Arg Ser Lys Gln Lys Ser Arg Arg Arg
      115             120             125
Cys Phe Gln Cys Gln Thr Lys Leu Glu Leu Val Gln Gln Glu Leu Gly
      130             135             140
Ser Cys Arg Cys Gly Tyr Val Phe Cys Met Leu His Arg Leu Pro Glu

```

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 145 |     | 150 |     | 155 |     | 160 |     |     |     |     |     |     |     |     |     |
| Gln | His | Asp | Cys | Thr | Phe | Asp | His | Met | Gly | Arg | Gly | Arg | Glu | Glu | Ala |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Ile | Met | Lys | Met | Val | Lys | Leu | Asp | Arg | Lys | Val | Gly | Arg | Ser | Cys | Gln |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Arg | Ile | Gly | Glu | Gly | Cys | Ser |     |     |     |     |     |     |     |     |     |
|     |     | 195 |     |     |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 3757

&lt;211&gt; 1046

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3757

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1046

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&lt;210&gt; 3758

&lt;211&gt; 199

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3758

```

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 1           5           10           15
Ala Val Asp Leu Cys Gly Arg Leu Leu Thr Ala His Gly Gln Gly Tyr
      20           25           30
Gly Lys Ser Gly Leu Leu Thr Ser His Thr Thr Asp Ser Leu Gln Leu
      35           40           45
Trp Phe Val Arg Leu Ala Leu Leu Val Lys Leu Gly Leu Phe Gln Asn
      50           55           60
Ala Glu Met Glu Phe Glu Pro Phe Gly Asn Leu Asp Gln Pro Asp Leu
      65           70           75           80
Tyr Ser Glu Tyr Tyr Pro His Val Tyr Pro Gly Arg Arg Gly Ser Met
      85           90           95
Val Pro Phe Ser Met Arg Ile Leu His Ala Glu Leu Gln Gln Tyr Leu
      100          105          110
Gly Asn Pro Gln Glu Ser Leu Asp Arg Leu His Lys Val Lys Thr Val
      115          120          125
Cys Ser Lys Val Gly Gly Ala Val Ile Leu Pro Cys His Gly Glu Asn
      130          135          140
Met Pro Ser Thr Pro Ser Pro Gln Asp Met Pro Val Leu Phe Pro Ala
      145          150          155          160
Arg Pro Ala Pro Cys Thr Ile Ala Ala Ser Ala Phe Arg Arg Leu Gly
      165          170          175
Asp Pro Gly Leu Cys Gly Leu Val Val Val Ala Leu Ala Glu Ile Phe
      180          185          190
Phe Arg Asp Gly Lys Ser Phe
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&lt;210&gt; 3759

&lt;211&gt; 830

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3759

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180
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300
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540

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 660  
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 720  
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<210> 3760

<211> 100

<212> PRT

<213> Homo sapiens

<400> 3760

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | His | Gly | Ala | Ser | Glu | Trp | Glu | Gln | Ala | Leu | Cys | Phe | Gln | Arg | Lys |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Arg | Asn | Pro | Glu | His | Cys | Pro | Cys | Gly | Glu | Lys | Arg | Asp | Trp | Glu | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Cys | Asp | Arg | Glu | Leu | Tyr | Pro | Gly | Glu | Pro | Arg | Leu | His | Leu | Ser | Ala |
|     |     |     | 35  |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Pro | Gly | Pro | Ala | Ser | His | Gln | Asp | Gln | Pro | Glu | Trp | Gln | Glu | Asp | Met |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Gly | Arg | Thr | Gly | Gly | Gly | Gly | Cys | Gly | His | Pro | Ser | Phe | Asn | Gln | Met |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Leu | Asp | Val | Lys | Gly | Pro | Ile | Pro | Val | Lys | Arg | Gly | Gly | Gln | Ala | Leu |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Phe | Val | Leu | Leu |     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 100 |

<210> 3761

<211> 458

<212> DNA

<213> Homo sapiens

<400> 3761

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 180  
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 <212> PRT  
 <213> Homo sapiens

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 <212> DNA  
 <213> Homo sapiens

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 780  
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 840  
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 900

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<210> 3764

<211> 288

<212> PRT

<213> Homo sapiens

<400> 3764

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Arg | Leu | Thr | Glu | Ala | Ala | Ala | Ala | Gly | Ser | Gly | Ser | Arg | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Gly | Trp | Ala | Gly | Ser | Pro | Pro | Thr | Leu | Leu | Pro | Leu | Ser | Pro | Thr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Pro | Arg | Cys | Ala | Ala | Thr | Met | Ala | Ser | Ser | Asp | Glu | Asp | Gly | Thr |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asn | Gly | Gly | Ala | Ser | Glu | Ala | Gly | Glu | Asp | Arg | Glu | Ala | Pro | Gly | Lys |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Arg | Arg | Arg | Leu | Gly | Phe | Leu | Ala | Thr | Ala | Trp | Leu | Thr | Phe | Tyr | Asp |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ile | Ala | Met | Thr | Ala | Gly | Trp | Leu | Val | Leu | Ala | Ile | Ala | Met | Val | Arg |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Phe | Tyr | Met | Glu | Lys | Gly | Thr | His | Arg | Gly | Leu | Tyr | Lys | Ser | Ile | Gln |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Lys | Thr | Leu | Lys | Phe | Phe | Gln | Thr | Phe | Ala | Leu | Leu | Glu | Ile | Val | His |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Cys | Leu | Ile | Gly | Ile | Val | Pro | Thr | Ser | Val | Ile | Val | Thr | Gly | Val | Gln |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Val | Ser | Ser | Arg | Ile | Phe | Met | Val | Trp | Leu | Ile | Thr | His | Ser | Ile | Lys |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Pro | Ile | Gln | Asn | Glu | Glu | Ser | Val | Val | Leu | Phe | Leu | Val | Ala | Trp | Thr |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Val | Thr | Glu | Ile | Thr | Arg | Tyr | Ser | Phe | Tyr | Thr | Phe | Ser | Leu | Leu | Asp |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| His | Leu | Pro | Tyr | Phe | Ile | Lys | Trp | Ala | Arg | Tyr | Asn | Phe | Phe | Ile | Ile |
|     |     | 195 |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |
| Leu | Tyr | Pro | Val | Gly | Val | Ala | Gly | Glu | Leu | Leu | Thr | Ile | Tyr | Ala | Ala |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Leu | Pro | Tyr | Val | Lys | Lys | Thr | Gly | Met | Phe | Ser | Ile | Arg | Leu | Pro | Asn |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Lys | Tyr | Asn | Val | Ser | Phe | Asp | Tyr | Tyr | Tyr | Phe | Leu | Leu | Ile | Thr | Met |



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&lt;210&gt; 3766

&lt;211&gt; 464

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3766

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Ser Gln Arg Ser Arg Arg Pro Ala Glu Pro Gly Arg Gly Ile Pro Asp
 20          25          30
Arg Arg Arg Arg Gly Pro Ile Gly Arg Val Asn Met Asp Leu Glu Asn
 35          40          45
Lys Val Lys Lys Met Gly Leu Gly His Glu Gln Gly Phe Gly Ala Pro
 50          55          60
Cys Leu Lys Cys Lys Glu Lys Cys Glu Gly Phe Glu Leu His Phe Trp
 65          70          75          80
Arg Lys Ile Cys Arg Asn Cys Lys Cys Gly Gln Glu Glu His Asp Val
 85          90          95
Leu Leu Ser Asn Glu Glu Asp Arg Lys Val Gly Lys Leu Phe Glu Asp
 100         105         110
Thr Lys Tyr Thr Thr Leu Ile Ala Lys Leu Lys Ser Asp Gly Ile Pro
 115         120         125
Met Tyr Lys Arg Asn Val Met Ile Leu Thr Asn Pro Val Ala Ala Lys
 130         135         140
Lys Asn Val Ser Ile Asn Thr Val Thr Tyr Glu Trp Ala Pro Pro Val
 145         150         155         160
Gln Asn Gln Ala Leu Ala Arg Gln Tyr Met Gln Met Leu Pro Lys Glu
 165         170         175
Lys Gln Pro Val Ala Gly Ser Glu Gly Ala Gln Tyr Arg Lys Lys Gln
 180         185         190
Leu Ala Lys Gln Leu Pro Ala His Asp Gln Asp Pro Ser Lys Cys His
 195         200         205
Glu Leu Ser Pro Arg Glu Val Lys Glu Met Glu Gln Phe Val Lys Lys
 210         215         220
Tyr Lys Ser Glu Ala Leu Gly Val Gly Asp Val Lys Leu Pro Cys Glu
 225         230         235         240
Met Asp Ala Gln Gly Pro Lys Gln Met Asn Ile Pro Gly Gly Asp Arg
 245         250         255
Ser Thr Pro Ala Ala Val Gly Ala Met Glu Asp Lys Ser Ala Glu His
 260         265         270
Lys Arg Thr Gln Tyr Ser Cys Tyr Cys Cys Lys Leu Ser Met Lys Glu
 275         280         285
Gly Asp Pro Ala Ile Tyr Ala Glu Arg Ala Gly Tyr Asp Lys Leu Trp
 290         295         300
His Pro Ala Cys Phe Val Cys Ser Thr Cys His Glu Leu Leu Val Asp
 305         310         315         320
Met Ile Tyr Phe Trp Lys Asn Glu Lys Leu Tyr Cys Gly Arg His Tyr
 325         330         335
Cys Asp Ser Glu Lys Pro Arg Cys Ala Gly Cys Asp Glu Leu Ile Phe
 340         345         350
Ser Asn Glu Tyr Thr Gln Ala Glu Asn Gln Asn Trp His Leu Lys His
 355         360         365
Phe Cys Cys Phe Asp Cys Asp Ser Ile Leu Ala Gly Glu Ile Tyr Val
 370         375         380
Met Val Asn Asp Lys Pro Val Cys Lys Pro Cys Tyr Val Lys Asn His

```

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     | 400 |
| Ala | Val | Val | Cys | Gln | Gly | Cys | His | Asn | Ala | Ile | Asp | Pro | Glu | Val |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |
| Arg | Val | Thr | Tyr | Asn | Asn | Phe | Ser | Trp | His | Ala | Ser | Thr | Glu | Cys |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |
| Leu | Cys | Ser | Cys | Cys | Ser | Lys | Cys | Leu | Ile | Gly | Gln | Lys | Phe | Met |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |
| Val | Glu | Gly | Met | Val | Phe | Cys | Ser | Val | Glu | Cys | Lys | Lys | Arg | Met |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |

&lt;210&gt; 3767

&lt;211&gt; 2439

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3767

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1140

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&lt;210&gt; 3768

&lt;211&gt; 379

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3768

Met Leu Arg Phe Leu Gly Glu Lys Ala Ala Lys Arg Gln Val Leu

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5

10

15

Asn Ala Asp Ser Val Glu Gln Ser Phe Val Gly Leu Lys Gln Leu Ile

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Thr Thr Asp Ser Leu Gln Leu Trp Phe Val Arg Leu Ala Leu Leu Val
   65                70                75                80
Lys Leu Gly Leu Phe Gln Asn Ala Glu Met Glu Phe Glu Pro Phe Gly
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Asn Leu Asp Gln Pro Asp Leu Tyr Tyr Glu Tyr Tyr Pro His Val Tyr
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Pro Gly Arg Arg Gly Ser Met Val Pro Phe Ser Met Arg Ile Leu His
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Leu His Lys Val Lys Thr Val Cys Ser Lys Ile Leu Ala Asn Leu Glu
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Gln Gly Leu Ala Glu Asp Gly Gly Met Ser Ser Val Thr Gln Glu Gly
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Arg Gln Ala Ser Ile Arg Leu Trp Arg Ser Arg Leu Gly Arg Val Met
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Tyr Ser Met Ala Asn Cys Leu Leu Met Lys Asp Tyr Val Leu Ala
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Val Leu Phe Asn Leu Thr Thr Met Tyr Glu Leu Glu Ser Ser Arg Ser
   340                345                350
Met Gln Lys Lys Gln Ala Leu Leu Glu Ala Val Ala Gly Lys Glu Gly
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&lt;210&gt; 3769

&lt;211&gt; 1931

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3769

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 1931

<210> 3770

<211> 447

<212> PRT

<213> Homo sapiens

<400> 3770

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Glu | Arg | Ala | Gly | Pro | Lys | Pro | Trp | Ser | His | Pro | Gly | Leu | Gly | Ile |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Cys | Gln | Glu | Gln | Phe | Asp | Ile | Asp | Glu | Tyr | Ser | Arg | Ala | Val | Arg | Asp |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Val | Lys | Thr | Asp | Trp | Asn | Glu | Glu | Cys | Lys | Ser | Pro | Lys | Lys | Gly | Arg |
|     | 35  |     |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Cys | Ser | Gly | His | Asn | His | Val | Pro | Asn | Ser | Leu | Ser | Tyr | Ala | Arg | Asp |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Glu | Leu | Thr | Gln | Ser | Phe | His | Arg | Leu | Ser | Val | Cys | Val | Tyr | Gly | Asn |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Asn | Leu | His | Gly | Asn | Ser | Glu | Val | Asn | Leu | His | Gly | Cys | Arg | Asp | Leu |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Gly | Gly | Asp | Trp | Ala | Pro | Phe | Pro | His | Asp | Ile | Leu | Pro | Tyr | Gln | Asp |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Ser | Gly | Asp | Ser | Gly | Ser | Asp | Tyr | Leu | Phe | Pro | Glu | Ala | Ser | Glu | Glu |
|     | 115 |     |     |     |     | 120 |     |     |     | 125 |     |     |     |     |     |
| Ser | Ala | Gly | Ile | Pro | Gly | Lys | Ser | Glu | Leu | Pro | Tyr | Glu | Glu | Leu | Trp |
|     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |     |
| Leu | Glu | Glu | Gly | Lys | Pro | Ser | His | Gln | Pro | Leu | Thr | Arg | Ser | Leu | Ser |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Glu | Lys | Asn | Arg | Cys | Asp | Gln | Phe | Arg | Gly | Ser | Val | Arg | Ser | Lys | Cys |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Ala | Thr | Ser | Pro | Leu | Pro | Ile | Pro | Gly | Thr | Leu | Gly | Ala | Ala | Val | Lys |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Ser | Ser | Asp | Thr | Ala | Leu | Pro | Pro | Pro | Pro | Val | Pro | Pro | Lys | Ser | Glu |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Ala | Val | Arg | Glu | Glu | Cys | Arg | Leu | Leu | Asn | Ala | Pro | Pro | Val | Pro | Pro |
|     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |     |
| Arg | Ser | Ala | Lys | Pro | Leu | Ser | Thr | Ser | Pro | Ser | Ile | Pro | Pro | Arg | Thr |
| 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |     |
| Val | Lys | Pro | Ala | Arg | Gln | Gln | Thr | Arg | Ser | Pro | Ser | Pro | Thr | Leu | Ser |
|     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |     |
| Tyr | Tyr | Ser | Ser | Gly | Leu | His | Asn | Ile | Val | Thr | Lys | Thr | Asp | Thr | Asn |
|     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |     |     |
| Pro | Ser | Glu | Ser | Thr | Pro | Val | Ser | Cys | Tyr | Pro | Cys | Asn | Arg | Val | Lys |
|     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |     |
| Thr | Asp | Ser | Val | Asp | Leu | Lys | Ser | Pro | Phe | Gly | Ser | Pro | Ser | Ala | Glu |

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Glu Ser Gln Thr Arg Ser Asp Phe Leu Leu Asp Pro Ser Arg Ser Tyr
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Ser Tyr Pro Arg Gln Lys Thr Pro Gly Thr Pro Lys Arg Asn Cys Pro
      340              345              350
Ala Pro Phe Asp Phe Asp Gly Cys Glu Leu Leu Ala Ser Pro Thr Ser
      355              360              365
Pro Val Thr Ala Glu Phe Ser Ser Ser Val Ser Gly Cys Pro Lys Ser
      370              375              380
Ala Ser Tyr Ser Leu Glu Ser Thr Asp Val Lys Ser Leu Ala Ala Gly
385              390              395              400
Val Thr Lys Gln Ser Thr Ser Cys Pro Ala Leu Pro Pro Arg Ala Pro
      405              410              415
Lys Leu Val Glu Glu Lys Val Ala Ser Glu Thr Ser Pro Leu Pro Leu
      420              425              430
Lys Ile Asp Gly Ala Glu Glu Asp Pro Lys Ser Gly Ser Pro Asp
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&lt;210&gt; 3771

&lt;211&gt; 1514

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3771

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840

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&lt;210&gt; 3772

&lt;211&gt; 280

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3772

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Thr | Ile | His | Asp | Ser | Glu | Phe | Lys | Glu | Tyr | Thr | Thr | Arg | Thr | Gln |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Arg | Pro | Pro | Ser | Val | Ile | Leu | Gly | Val | Thr | Asn | Pro | Phe | Phe | Ala | Lys |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Thr | Leu | Gln | His | Trp | Pro | His | Ile | Arg | Ile | Gly | Asp | Leu | Lys | Pro |     |
|     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |     |
| Thr | Ser | Glu | Ile | Pro | Lys | Gln | Val | Lys | Val | Lys | Lys | Leu | Lys | Asn | Leu |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Lys | Thr | Leu | Asp | Ser | Lys | Pro | Gly | Val | Tyr | Thr | Ser | Tyr | Lys | Pro | Tyr |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Leu | Asn | Arg | Asp | Glu | Glu | Ile | Ile | Lys | Gln | Leu | Gln | Lys | Gly | Val | Gln |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Gln | Lys | Arg | Pro | Ser | Glu | Ala | Gln | Ser | Val | Ile | Leu | Arg | Arg | Tyr | Phe |
|     |     |     | 100 |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Leu | Glu | Leu | Thr | Gln | Ser | Phe | Ile | Ile | Pro | Leu | Glu | Arg | Tyr | Val | Ala |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Ser | Leu | Met | Pro | Leu | Gln | Lys | Ser | Ile | Ser | Pro | Trp | Lys | Ser | Pro | Pro |
|     | 130 |     |     |     | 135 |     |     |     |     |     | 140 |     |     |     |     |
| Gln | Leu | Arg | Gln | Phe | Leu | Pro | Glu | Glu | Phe | Met | Lys | Thr | Leu | Glu | Lys |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Thr | Gly | Pro | Gln | Leu | Thr | Ser | Arg | Ile | Lys | Gly | Asp | Trp | Ile | Gly | Leu |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Tyr | Arg | His | Phe | Leu | Lys | Ser | Pro | Asn | Phe | Asp | Gly | Trp | Phe | Lys | Thr |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| 180 |     |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |     |  |  |
| Arg | Arg | Lys | Glu | Met | Thr | Gln | Lys | Leu | Glu | Ala | Leu | His | Leu | Glu | Ala |  |  |
| 195 |     |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |  |  |
| Leu | Cys | Glu | Glu | Asp | Leu | Leu | Leu | Trp | Ile | Gln | Lys | His | Thr | Glu | Val |  |  |
| 210 |     |     |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |  |  |
| Glu | Thr | Val | Asp | Leu | Val | Leu | Lys | Leu | Lys | Asn | Lys | Leu | Leu | Gln | Ala |  |  |
| 225 |     |     |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     |  |  |
| Asp | Arg | Glu | His | Leu | Pro | Val | Lys | Pro | Asp | Thr | Met | Glu | Lys | Leu | Arg |  |  |
| 245 |     |     |     |     |     | 250 |     |     |     |     |     | 255 |     |     |     |  |  |
| Thr | His | Ile | Asp | Ala | Ile | Ile | Leu | Ala | Leu | Pro | Glu | Asp | Leu | Gln | Gly |  |  |
| 260 |     |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |     |  |  |
| Ile | Leu | Leu | Lys | Thr | Gly | Met | Thr |     |     |     |     |     |     |     |     |  |  |
| 275 |     |     |     |     |     | 280 |     |     |     |     |     |     |     |     |     |  |  |

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<210> 3773
<211> 2664
<212> DNA
<213> Homo sapiens
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1020

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| Val | Arg | Pro | Ala | Gly | Pro | Pro | Asn | Ala | Gly | Ser | Met | Ser | Ala | Gly | Ser |
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|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
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| Pro | Leu | Thr | Lys | Ser | Asp | Pro | Ser | Val | Ala | Leu | Leu | Gln | Gln | Ala | Gln |
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| Gly | Gln | Trp | Val | Gln | Val | Gly | Arg | Thr | Glu | Val | Val | Arg | Ser | Ser | Leu |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| His | Pro | Val | Phe | Ser | Lys | Val | Phe | Thr | Val | Asp | Tyr | Tyr | Phe | Glu | Glu |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Val | Gln | Arg | Leu | Arg | Phe | Glu | Val | Tyr | Asp | Thr | His | Gly | Pro | Ser | Gly |
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|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Val | Asp | Val | Leu | Gly | Pro | Ala | Gly | His | Cys | Ala | Lys | His | Phe | Leu | Cys |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Cys | Thr | Glu | Ser | Ser | His | Leu | Ala | Arg | Thr | Gly | Pro | Ser | Phe | Leu | Leu |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Arg | Tyr | Asp | Asp | Leu | Cys | Leu | Pro | Trp | Ala | Thr | Ala | Gly | Ala | Val | Arg |
|     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |
| Trp | Trp | Thr | Cys | Arg | Gly | Gly | His | Thr | Gln | Gly | Trp | Gln | Ile | Val | Ala |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| Gln | Lys | Lys | Val | Thr | Arg | Pro | Leu | Leu | Leu | Lys | Phe | Gly | Arg | Asn | Ala |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Gly | Lys | Ser | Thr | Ile | Thr | Val | Ile | Ala | Glu | Asp | Ile | Ser | Gly | Asn | Asn |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |     |
| Gly | Tyr | Val | Glu | Leu | Ser | Phe | Arg | Ala | Arg | Lys | Leu | Asp | Asp | Lys | Asp |
|     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |     |
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|     | 290 |     |     |     | 295 |     |     |     |     |     | 300 |     |     |     |     |
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|     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |     |
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Tyr Ile Ser Pro Arg Gln Pro Asn His Tyr Leu Gln Ala Leu Arg Ala
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&lt;213&gt; Homo sapiens

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| Met | Gly | Leu | Asn | Thr | Ser | Arg | Val | Ala | Ile | Thr | Leu | Lys | Pro | Gln | Asp |
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| Pro | Met | Glu | Gln | Asn | Val | Ala | Glu | Leu | Leu | Gln | Phe | Leu | Leu | Val | Lys |
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| Asp | Gln | Ser | Lys | Tyr | Pro | Ile | Arg | Glu | Ser | Glu | Met | Arg | Glu | Tyr | Ile |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Val | Lys | Glu | Tyr | Arg | Asn | Gln | Phe | Pro | Glu | Ile | Leu | Arg | Arg | Ala | Ala |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Ala | His | Leu | Glu | Cys | Ile | Phe | Arg | Phe | Glu | Leu | Arg | Glu | Leu | Asp | Pro |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Glu | Ala | His | Thr | Tyr | Ile | Leu | Leu | Asn | Lys | Leu | Gly | Pro | Val | Pro | Phe |
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| Met | Ile | Leu | Gly | Gln | Ile | Phe | Leu | Asn | Gly | Asn | Gln | Ala | Lys | Glu | Ala |
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 <213> Homo sapiens

<400> 3778  
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 Glu Lys Arg Asn Lys Ile Glu Glu Ala Pro Glu Ala Thr Pro Gln Pro  
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 Ser Gln Pro Gly Pro Ser Ser Pro Ile Ser Leu Ser Ala Glu Glu Glu  
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 65 70 75 80  
 Thr Glu Lys Thr Glu Asp Ser Ser Val Pro Glu Thr Pro Asp Asn Glu  
 85 90 95  
 Arg Lys Ala Ser Ile Ser Tyr Phe Lys Asn Gln Arg Gly Ile Gln Tyr  
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 Ile Asp Leu Ser Ser Asp Ser Glu Asp Val Val Ser Pro Asn Cys Ser  
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 Asn Thr Val Gln Glu Lys Thr Phe Asn Lys Asp Thr Val Ile Ile Val  
 130 135 140  
 Ser Glu Pro Ser Glu Asp Glu Glu Ser Gln Gly Leu Pro Thr Met Ala  
 145 150 155 160  
 Arg Arg Asn Asp Asp Ile Ser Glu Leu Glu Asp Leu Ser Glu Leu Glu  
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 Asp Leu Lys Asp Ala Lys Leu Gln Thr Leu Lys Glu Leu Phe Pro Gln  
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 Arg Ser Asp Asn Asp Leu Leu Lys Leu Ile Glu Ser Thr Ser Thr Met  
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 Asp Gly Ala Ile Ala Ala Ala Leu Leu Met Phe Gly Asp Ala Gly Gly  
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 Gly Pro Arg Lys Arg Lys Leu Ser Ser Ser Ser Glu Pro Tyr Glu Glu  
 225 230 235 240  
 Asp Glu Phe Asn Asp Asp Gln Ser Ile Lys Lys Thr Arg Leu Asp His  
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 Gly Glu Glu Ser Asn Glu Ser Ala Glu Ser Ser Ser Asn Trp Glu Lys  
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 Gln Glu Ser Ile Val Leu Lys Leu Gln Lys Glu Phe Pro Asn Phe Asp  
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 Lys Gln Glu Leu Arg Glu Val Leu Lys Glu His Glu Trp Met Tyr Thr  
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 Glu Ala Leu Glu Ser Leu Lys Val Phe Ala Glu Asp Gln Asp Met Gln  
 305 310 315 320  
 Tyr Ala Ser Gln Ser Glu Val Pro Asn Gly Lys Glu Val Ser Ser Arg  
 325 330 335  
 Ser Gln Asn Tyr Pro Lys Asn Ala Thr Lys Thr Lys Leu Lys Gln Lys  
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 Phe Ser Met Lys Ala Gln Asn Gly Phe Asn Lys Lys Arg Lys Lys Asn  
 355 360 365  
 Val Phe Asn Pro Lys Arg Val Val Glu Asp Ser Glu Tyr Asp Ser Gly

|         |     |     |     |         |     |     |     |     |     |         |     |     |     |     |         |
|---------|-----|-----|-----|---------|-----|-----|-----|-----|-----|---------|-----|-----|-----|-----|---------|
| 370     |     |     |     | 375     |     |     |     | 380 |     |         |     |     |     |     |         |
| Ser 385 | Asp | Val | Gly | Ser 390 | Ser | Leu | Asp | Glu | Asp | Tyr 395 | Ser | Ser | Gly | Glu | Glu 400 |
| Val     | Met | Glu | Asp | Gly 405 | Tyr | Lys | Gly | Lys | Ile | Leu     | His | Phe | Leu | Gln | Asp 415 |
| Ala     | Ser | Ile | Gly | Glu 420 | Leu | Thr | Leu | Ile | Pro | Gln     | Cys | Ser | Gln | Lys | Lys     |
| Ala     | Gln | Lys | Ile | Thr 435 | Glu | Leu | Arg | Pro | Phe | Asn     | Ser | Trp | Glu | Ala | Leu     |
| Phe     | Thr | Lys | Met | Ser 450 | Lys | Thr | Asn | Gly | Leu | Ser     | Glu | Asp | Leu | Ile | Trp     |
| His 465 | Cys | Lys | Thr | Leu 470 | Ile | Gln | Glu | Arg | Asp | Val     | Val | Ile | Arg | Leu | Met 480 |
| Asn     | Lys | Cys | Glu | Asp 485 | Ile | Ser | Asn | Lys | Leu | Thr     | Lys | Gln | Val | Thr | Met 495 |
| Leu     | Thr | Gly | Asn | Gly 500 | Gly | Gly | Trp | Asn | Ile | Glu     | Gln | Pro | Ser | Ile | Leu     |
| Asn     | Gln | Ser | Leu | Ser 515 | Leu | Lys | Pro | Tyr | Gln | Lys     | Val | Gly | Leu | Asn | Trp     |
| Leu     | Ala | Leu | Val | His 530 | Lys | His | Gly | Leu | Asn | Gly     | Ile | Leu | Ala | Asp | Glu     |
| Met 545 | Gly | Leu | Gly | Lys 550 | Thr | Ile | Gln | Ala | Ile | Ala     | Phe | Leu | Ala | Tyr | Leu 560 |
| Tyr     | Gln | Glu | Gly | Asn 565 | Asn | Gly | Pro | His | Leu | Ile     | Val | Val | Pro | Ala | Ser     |
| Thr     | Ile | Asp | Asn | Trp 580 | Leu | Arg | Glu | Val | Asn | Leu     | Trp | Cys | Pro | Thr | Leu     |
| Lys     | Val | Leu | Cys | Tyr 595 | Tyr | Gly | Ser | Gln | Glu | Glu     | Arg | Lys | Gln | Ile | Arg     |
| Phe 610 | Asn | Ile | His | Ser 615 | Arg | Tyr | Glu | Asp | Tyr | Asn     | Val | Ile | Val | Thr | Thr     |
| Tyr 625 | Asn | Cys | Ala | Ile 630 | Ser | Ser | Ser | Asp | Asp | Arg     | Ser | Leu | Phe | Arg | Arg     |
| Leu     | Lys | Leu | Asn | Tyr 645 | Ala | Ile | Phe | Asp | Glu | Gly     | His | Met | Leu | Lys | Asn     |
| Met     | Gly | Ser | Ile | Arg 660 | Tyr | Gln | His | Leu | Met | Thr     | Ile | Asn | Ala | Asn | Asn     |
| Arg     | Leu | Leu | Leu | Thr 675 | Gly | Thr | Pro | Val | Gln | Asn     | Asn | Leu | Leu | Glu | Leu     |
| Met 690 | Ser | Leu | Leu | Asn 695 | Phe | Val | Met | Pro | His | Met     | Phe | Ser | Ser | Ser | Thr     |
| Ser 705 | Glu | Ile | Arg | Arg 710 | Met | Phe | Ser | Ser | Lys | Thr     | Lys | Ser | Ala | Asp | Glu     |
| Gln     | Ser | Ile | Tyr | Glu 725 | Lys | Glu | Arg | Ile | Ala | His     | Ala | Lys | Gln | Ile | Ile     |
| Lys     | Pro | Phe | Ile | Leu 740 | Arg | Arg | Val | Lys | Glu | Glu     | Val | Leu | Lys | Gln | Leu     |
| Pro     | Pro | Lys | Lys | Asp 755 | Arg | Ile | Glu | Leu | Cys | Ala     | Met | Ser | Glu | Arg | Gln     |
| Glu 770 | Gln | Leu | Tyr | Leu 775 | Gly | Leu | Phe | Asn | Arg | Leu     | Lys | Lys | Ser | Ile | Asn     |
| Asn 785 | Leu | Val | Thr | Glu 790 | Lys | Asn | Thr | Glu | Met | Cys     | Asn | Val | Met | Met | Gln     |
| Leu     | Arg | Lys | Met | Ala     | Asn | His | Pro | Leu | Leu | His     | Arg | Gln | Tyr | Tyr | Thr     |

805 810 815  
 Ala Glu Lys Leu Lys Glu Met Ser Gln Leu Met Leu Lys Glu Pro Thr  
 820 825 830  
 His Cys Glu Ala Asn Pro Asp Leu Ile Phe Glu Asp Met Glu Val Met  
 835 840 845  
 Thr Asp Phe Glu Leu His Val Leu Cys Lys Gln Tyr Arg His Ile Asn  
 850 855 860  
 Asn Phe Gln Leu Asp Met Asp Leu Ile Leu Asp Ser Gly Lys Phe Arg  
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 Val Leu Gly Cys Ile Leu Ser Glu Leu Lys Gln Lys Gly Asp Arg Val  
 885 890 895  
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 930 935 940  
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 965 970 975  
 Tyr Asn Asp Lys Gln Ala Glu Asp Arg Cys His Arg Val Gly Gln Thr  
 980 985 990  
 Lys Glu Val Leu Val Ile Lys Leu Ile Ser Gln Gly Thr Ile Glu Glu  
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 1045

&lt;210&gt; 3779

&lt;211&gt; 1853

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3779

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1853

&lt;210&gt; 3780

&lt;211&gt; 530

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3780

His Arg Glu Lys Glu Asp Ile Lys Ile Thr Lys Glu Arg Thr Pro Glu

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |
| Ser | Glu | Glu | Glu | Asn | Val | Glu | Trp | Glu | Thr | Asn | Arg | Asp | Asp | Ser | Asp |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |
| Asn | Gly | Asp | Ile | Asn | Tyr | Asp | Tyr | Val | His | Glu | Leu | Ser | Leu | Glu | Met |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |
| Lys | Arg | Gln | Lys | Ile | Gln | Arg | Glu | Leu | Met | Lys | Leu | Glu | Gln | Glu | Asn |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |
| Met | Glu | Lys | Arg | Glu | Glu | Ile | Ile | Ile | Lys | Lys | Glu | Val | Ser | Pro | Glu |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |  |
| Val | Val | Arg | Ser | Lys | Leu | Ser | Pro | Ser | Pro | Ser | Leu | Arg | Lys | Ser | Ser |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |
| Lys | Ser | Pro | Lys | Arg | Lys | Ser | Ser | Pro | Lys | Ser | Ser | Ser | Ala | Ser | Lys |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| Lys | Asp | Arg | Lys | Thr | Ser | Ala | Val | Ser | Ser | Pro | Leu | Leu | Asp | Gln | Gln |  |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |  |
| Arg | Asn | Ser | Lys | Thr | Asn | Gln | Ser | Lys | Lys | Lys | Gly | Pro | Arg | Thr | Pro |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| Ser | Pro | Pro | Pro | Pro | Ile | Pro | Glu | Asp | Ile | Ala | Leu | Gly | Lys | Lys | Tyr |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |
| Lys | Glu | Lys | Tyr | Lys | Val | Lys | Asp | Arg | Ile | Glu | Glu | Lys | Thr | Arg | Asp |  |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |  |
| Gly | Lys | Asp | Arg | Gly | Arg | Asp | Phe | Glu | Arg | Gln | Arg | Glu | Lys | Arg | Asp |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |
| Lys | Pro | Arg | Ser | Thr | Ser | Pro | Ala | Gly | Gln | His | His | Ser | Pro | Ile | Ser |  |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |
| Ser | Arg | His | His | Ser | Ser | Ser | Ser | Gln | Ser | Gly | Ser | Ser | Ile | Gln | Arg |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |
| His | Ser | Pro | Ser | Pro | Arg | Arg | Lys | Arg | Thr | Pro | Ser | Pro | Ser | Tyr | Gln |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |  |
| Arg | Thr | Leu | Thr | Pro | Pro | Leu | Arg | Arg | Ser | Ala | Ser | Pro | Tyr | Pro | Ser |  |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |
| His | Ser | Leu | Ser | Ser | Pro | Gln | Arg | Lys | Gln | Ser | Pro | Pro | Arg | His | Arg |  |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |
| Ser | Pro | Met | Arg | Glu | Lys | Gly | Arg | His | Asp | His | Glu | Arg | Thr | Ser | Gln |  |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |
| Ser | His | Asp | Arg | Arg | His | Glu | Gly | Arg | Glu | Asp | Thr | Arg | Gly | Lys | Arg |  |
|     | 290 |     |     |     |     | 295 |     |     |     | 300 |     |     |     |     |     |  |
| Asp | Arg | Glu | Lys | Asp | Ser | Arg | Glu | Glu | Arg | Glu | Tyr | Glu | Gln | Asp | Gln |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |     |  |
| Ser | Ser | Ser | Arg | Asp | His | Arg | Asp | Asp | Arg | Glu | Pro | Arg | Asp | Gly | Arg |  |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |  |
| Asp | Arg | Arg | Asp | Ala | Arg | Asp | Thr | Arg | Asp | Arg | Arg | Glu | Leu | Arg | Asp |  |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |
| Ser | Arg | Asp | Met | Arg | Asp | Ser | Arg | Glu | Met | Arg | Asp | Tyr | Ser | Arg | Asp |  |
|     | 355 |     |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |
| Thr | Lys | Glu | Ser | Arg | Asp | Pro | Arg | Asp | Ser | Arg | Ser | Thr | Arg | Asp | Ala |  |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |
| His | Asp | Tyr | Arg | Asp | Arg | Glu | Gly | Arg | Asp | Thr | His | Arg | Lys | Glu | Asp |  |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     | 400 |     |  |
| Thr | Tyr | Pro | Glu | Glu | Ser | Arg | Ser | Tyr | Gly | Arg | Asn | His | Leu | Arg | Glu |  |
|     |     |     | 405 |     |     |     |     |     | 410 |     |     |     |     | 415 |     |  |
| Glu | Ser | Ser | Arg | Thr | Glu | Ile | Arg | Asn | Glu | Ser | Arg | Asn | Glu | Ser | Arg |  |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     | 430 |     |     |     |  |
| Ser | Glu | Ile | Arg | Asn | Asp | Arg | Met | Gly | Arg | Ser | Arg | Gly | Arg | Val | Pro |  |



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<210> 3782

<211> 112

<212> PRT

<213> Homo sapiens

<400> 3782

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asn | Asp | Ile | Gln | Asn | Ser | Arg | Leu | Asn | Pro | Gln | Asp | Leu | Cys | Leu |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Thr | Pro | Asp | Pro | Gly | Ser | Arg | Asn | Ser | Gly | Ser | Ser | His | Leu | Val | Trp |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asp | Leu | Gln | Asp | Ser | Ser | Glu | Leu | His | Pro | Glu | Phe | Ala | Lys | Cys | His |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Val | Pro | Trp | Thr | Pro | Arg | Phe | Ala | Tyr | Gly | Val | Phe | Tyr | Ala | Asp | Pro |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Cys | Thr | Gly | Gly | Asp | Ser | Tyr | His | Pro | His | Glu | Gln | Ser | Ser | Pro | Pro |
| 65  |     |     |     | 70  |     |     |     |     |     | 75  |     |     |     | 80  |     |
| Ile | Phe | Ser | Lys | Gln | Ser | Trp | Ala | Leu | Thr | Pro | Leu | Glu | Arg | Gly | Arg |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Asn | Gly | Ser | Lys | Ile | Thr | Ser | Arg | Lys | Gly | Gln | Ser | Val | Leu | Met | Thr |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |

<210> 3783

<211> 4137

<212> DNA

<213> Homo sapiens

<400> 3783

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<210> 3784

<211> 804

<212> PRT

<213> Homo sapiens

<400> 3784

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asn | Tyr | Gln | Gln | Gln | Leu | Ala | Asn | Ser | Ala | Ala | Ile | Arg | Ala | Glu |
| 1   |     |     | 5   |     |     |     |     |     | 10  |     |     |     | 15  |     |     |
| Ile | Gln | Arg | Phe | Glu | Ser | Val | His | Pro | Asn | Ile | Tyr | Ser | Ile | Tyr | Glu |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Leu | Leu | Glu | Arg | Val | Glu | Glu | Pro | Val | Leu | Gln | Asn | Gln | Ile | Arg | Glu |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| His | Val | Ile | Ala | Ile | Glu | Asp | Ala | Phe | Val | Asn | Ser | Gln | Glu | Trp | Thr |
|     | 50  |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |     |
| Leu | Ser | Arg | Ser | Val | Pro | Glu | Leu | Lys | Val | Gly | Ile | Val | Gly | Asn | Leu |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Ala | Ser | Gly | Lys | Ser | Ala | Leu | Val | His | Arg | Tyr | Leu | Thr | Gly | Thr | Tyr |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Val | Gln | Glu | Glu | Ser | Pro | Glu | Gly | Gly | Arg | Phe | Lys | Lys | Glu | Ile | Val |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Val | Asp | Gly | Gln | Ser | Tyr | Leu | Leu | Leu | Ile | Arg | Asp | Glu | Gly | Gly | Pro |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Pro | Glu | Ala | Gln | Phe | Ala | Met | Trp | Val | Asp | Ala | Val | Ile | Phe | Val | Phe |
|     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |     |
| Ser | Leu | Glu | Asp | Glu | Ile | Ser | Phe | Gln | Thr | Val | Tyr | His | Tyr | Tyr | Ser |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |
| Arg | Met | Ala | Asn | Tyr | Arg | Asn | Thr | Ser | Glu | Ile | Pro | Leu | Val | Leu | Val |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Gly | Thr | Gln | Asp | Ala | Ile | Ser | Ser | Ala | Asn | Pro | Arg | Val | Ile | Asp | Asp |
|     |     | 180 |     |     |     | 185 |     |     |     |     |     | 190 |     |     |     |
| Ala | Arg | Ala | Arg | Lys | Leu | Ser | Asn | Asp | Leu | Lys | Arg | Cys | Thr | Tyr | Tyr |
|     | 195 |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |     |
| Glu | Thr | Cys | Ala | Thr | Tyr | Gly | Leu | Asn | Val | Glu | Arg | Val | Phe | Gln | Asp |
|     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |
| Val | Ala | Gln | Lys | Ile | Val | Ala | Thr | Arg | Lys | Lys | Gln | Gln | Leu | Ser | Ile |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     | 240 |     |
| Gly | Pro | Cys | Lys | Ser | Leu | Pro | Asn | Ser | Pro | Ser | His | Ser | Ser | Val | Cys |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|     |     |     |     | 245 |     |     |     | 250 |     |     |     | 255 |     |     |     |  |
| Ser | Ala | Gln | Val | Ser | Ala | Val | His | Ile | Ser | Gln | Thr | Ser | Asn | Gly | Gly |  |
| 260 |     |     |     |     |     |     |     | 265 |     |     |     | 270 |     |     |     |  |
| Gly | Ser | Leu | Ser | Asp | Tyr | Ser | Ser | Ser | Val | Pro | Ser | Thr | Pro | Ser | Thr |  |
| 275 |     |     |     |     |     |     |     | 280 |     |     |     | 285 |     |     |     |  |
| Ser | Gln | Lys | Glu | Leu | Arg | Ile | Asp | Val | Pro | Pro | Thr | Ala | Asn | Thr | Pro |  |
| 290 |     |     |     |     |     |     |     | 295 |     |     |     | 300 |     |     |     |  |
| Thr | Pro | Val | Arg | Lys | Gln | Ser | Lys | Arg | Arg | Ser | Asn | Leu | Phe | Thr | Ser |  |
| 305 |     |     |     |     | 310 |     |     |     | 315 |     |     |     | 320 |     |     |  |
| Arg | Lys | Gly | Ser | Asp | Pro | Asp | Lys | Glu | Lys | Lys | Gly | Leu | Glu | Ser | Arg |  |
| 325 |     |     |     |     |     |     |     | 330 |     |     |     | 335 |     |     |     |  |
| Ala | Asp | Ser | Ile | Gly | Ser | Gly | Arg | Ala | Ile | Pro | Ile | Lys | Gln | Gly | Met |  |
| 340 |     |     |     |     |     |     |     | 345 |     |     |     | 350 |     |     |     |  |
| Leu | Leu | Lys | Arg | Ser | Gly | Lys | Ser | Leu | Asn | Lys | Glu | Trp | Lys | Lys | Lys |  |
| 355 |     |     |     |     |     |     |     | 360 |     |     |     | 365 |     |     |     |  |
| Tyr | Val | Thr | Leu | Cys | Asp | Asn | Gly | Val | Leu | Thr | Tyr | His | Pro | Ser | Leu |  |
| 370 |     |     |     |     |     |     |     | 375 |     |     |     | 380 |     |     |     |  |
| His | Asp | Tyr | Met | Gln | Asn | Val | His | Gly | Lys | Glu | Ile | Asp | Leu | Leu | Arg |  |
| 385 |     |     |     |     | 390 |     |     |     | 395 |     |     |     | 400 |     |     |  |
| Thr | Thr | Val | Lys | Val | Pro | Gly | Lys | Arg | Pro | Pro | Arg | Ala | Thr | Ser | Ala |  |
| 405 |     |     |     |     |     |     |     | 410 |     |     |     | 415 |     |     |     |  |
| Cys | Ala | Pro | Ile | Ser | Ser | Pro | Lys | Thr | Asn | Gly | Leu | Ser | Lys | Asp | Met |  |
| 420 |     |     |     |     |     |     |     | 425 |     |     |     | 430 |     |     |     |  |
| Ser | Ser | Leu | His | Ile | Ser | Pro | Asn | Ser | Asp | Thr | Gly | Leu | Gly | Asp | Ser |  |
| 435 |     |     |     |     |     |     |     | 440 |     |     |     | 445 |     |     |     |  |
| Val | Cys | Ser | Ser | Pro | Ser | Ile | Ser | Ser | Thr | Thr | Ser | Pro | Lys | Leu | Asp |  |
| 450 |     |     |     |     |     |     |     | 455 |     |     |     | 460 |     |     |     |  |
| Pro | Pro | Pro | Ser | Pro | His | Ala | Asn | Arg | Lys | Lys | His | Arg | Arg | Lys | Lys |  |
| 465 |     |     |     |     | 470 |     |     |     | 475 |     |     |     | 480 |     |     |  |
| Ser | Thr | Ser | Asn | Phe | Lys | Ala | Asp | Gly | Leu | Ser | Gly | Thr | Ala | Glu | Glu |  |
| 485 |     |     |     |     |     |     |     | 490 |     |     |     | 495 |     |     |     |  |
| Gln | Glu | Glu | Asn | Phe | Glu | Phe | Ile | Ile | Val | Ser | Leu | Thr | Gly | Gln | Thr |  |
| 500 |     |     |     |     |     |     |     | 505 |     |     |     | 510 |     |     |     |  |
| Trp | His | Phe | Glu | Ala | Thr | Thr | Tyr | Glu | Glu | Arg | Asp | Ala | Trp | Val | Gln |  |
| 515 |     |     |     |     |     |     |     | 520 |     |     |     | 525 |     |     |     |  |
| Ala | Ile | Glu | Ser | Gln | Ile | Leu | Ala | Ser | Leu | Gln | Ser | Cys | Glu | Ser | Ser |  |
| 530 |     |     |     |     |     |     |     | 535 |     |     |     | 540 |     |     |     |  |
| Lys | Asn | Lys | Ser | Arg | Leu | Thr | Ser | Gln | Ser | Glu | Ala | Met | Ala | Leu | Gln |  |
| 545 |     |     |     |     | 550 |     |     |     | 555 |     |     |     | 560 |     |     |  |
| Ser | Ile | Arg | Asn | Met | Arg | Gly | Asn | Ser | His | Cys | Val | Asp | Cys | Glu | Thr |  |
| 565 |     |     |     |     |     |     |     | 570 |     |     |     | 575 |     |     |     |  |
| Gln | Asn | Pro | Asn | Trp | Ala | Ser | Leu | Asn | Leu | Gly | Ala | Leu | Met | Cys | Ile |  |
| 580 |     |     |     |     |     |     |     | 585 |     |     |     | 590 |     |     |     |  |
| Glu | Cys | Ser | Gly | Ile | His | Arg | Asn | Leu | Gly | Thr | His | Leu | Ser | Arg | Val |  |
| 595 |     |     |     |     |     |     |     | 600 |     |     |     | 605 |     |     |     |  |
| Arg | Ser | Leu | Asp | Leu | Asp | Asp | Trp | Pro | Ile | Glu | Leu | Ile | Lys | Val | Met |  |
| 610 |     |     |     |     |     |     |     | 615 |     |     |     | 620 |     |     |     |  |
| Ser | Ser | Ile | Gly | Asn | Glu | Leu | Ala | Asn | Ser | Val | Trp | Glu | Glu | Ser | Ser |  |
| 625 |     |     |     |     | 630 |     |     |     | 635 |     |     |     | 640 |     |     |  |
| Gln | Gly | Arg | Thr | Lys | Pro | Ser | Val | Asp | Ser | Thr | Arg | Glu | Glu | Lys | Glu |  |
| 645 |     |     |     |     |     |     |     | 650 |     |     |     | 655 |     |     |     |  |
| Arg | Trp | Ile | Arg | Ala | Lys | Tyr | Glu | Gln | Lys | Leu | Phe | Leu | Ala | Pro | Leu |  |
| 660 |     |     |     |     |     |     |     | 665 |     |     |     | 670 |     |     |     |  |
| Pro | Cys | Thr | Glu | Leu | Ser | Leu | Gly | Gln | His | Leu | Leu | Arg | Ala | Thr | Ala |  |



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&lt;210&gt; 3786

&lt;211&gt; 168

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3786

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Thr | Gly | Ser | Gly | Val | Asp | Ala | Arg | Thr | Ala | Ser | Ser | Gly | Ser | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Val | Trp | Glu | Gly | Gln | Leu | Gln | Ser | Leu | Val | Leu | Ser | Glu | Tyr | Ala | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Thr | Glu | Met | Ser | Leu | His | Ala | Leu | Tyr | Met | His | Gln | Leu | His | Lys | Gln |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gln | Ala | Gln | Ala | Glu | Pro | Glu | Arg | His | Val | Trp | His | Arg | Arg | Glu | Ser |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asp | Glu | Ser | Gly | Glu | Ser | Ala | Pro | Asp | Glu | Gly | Gly | Glu | Gly | Ala | Arg |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ala | Pro | Gln | Ser | Ile | Pro | Arg | Ser | Ala | Ser | Tyr | Pro | Cys | Ala | Ala | Pro |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Arg | Pro | Gly | Ala | Pro | Glu | Thr | Thr | Ala | Leu | His | Gly | Gly | Phe | Gln | Arg |

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His Phe Ser Arg Leu Pro Leu Gly Gly Trp Ala Glu Asp Gly Gln Ser
          130          135          140
Ala Ser Arg His Pro Glu Pro Val Pro Glu Glu Gly Ser Glu Asp Glu
145          150          155          160
Leu Pro Pro Gln Val His Lys Val
          165

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&lt;210&gt; 3787

&lt;211&gt; 717

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3787

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&lt;210&gt; 3788

&lt;211&gt; 113

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3788

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Met Leu Gln Asn Thr Ala Ser Ile Asn Thr Glu Tyr Thr Glu Ser Leu
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Cys Ala Ser Ile Lys Leu Arg His Gly Ser Arg Ala Ala Pro Pro Gly
          20          25          30
Pro Trp Gly Ala Lys Cys Ser Trp Arg Gln Val Ala Lys Gly Glu His
          35          40          45
Leu Gly Gln Thr Pro Gly Phe Ser Ser Arg Leu Pro His Leu Pro Ala

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|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| 50  |     | 55  |     | 60  |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Ser | Leu | Leu | Ser | Trp | Leu | Ser | Pro | Ser | Leu | Leu | Val | Cys | Asn | Lys | Gly |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Ala | Ala | Val | Ile | Thr | His | Glu | Gln | Cys | Leu | Ala | Gln | Ser | Gly | Arg | Ser |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |  |  |
| Ala | Val | Leu | Val | His | Met | Glu | Glu | Pro | Lys | Gln | Ala | Pro | Cys | Thr | Val |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Leu |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |

&lt;210&gt; 3789

&lt;211&gt; 4341

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3789

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|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
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| Arg | Phe | Glu | Ala | Phe | Gln | Arg | Gln | Ile | His | Glu | Arg | Leu | Thr | Gln | Leu |  |  |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |  |  |
| Glu | Leu | Ile | Asn | Lys | Gln | Tyr | Arg | Arg | Leu | Ala | Arg | Glu | Asn | Arg | Thr |  |  |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     |     | 415 |  |  |
| Asp | Thr | Ala | Ser | Arg | Leu | Lys | Gln | Met | Val | His | Glu | Gly | Asn | Gln | Arg |  |  |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |  |
| Trp | Asp | Asn | Leu | Gln | Arg | Arg | Val | Thr | Ala | Val | Leu | Arg | Arg | Leu | Arg |  |  |
|     | 435 |     |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |  |
| His | Phe | Thr | Asn | Gln | Arg | Glu | Glu | Phe | Glu | Gly | Thr | Arg | Glu | Ser | Ile |  |  |
|     | 450 |     |     |     |     | 455 |     |     | 460 |     |     |     |     |     |     |  |  |
| Leu | Val | Trp | Leu | Thr | Glu | Met | Asp | Leu | Gln | Leu | Thr | Asn | Val | Glu | His |  |  |
| 465 |     |     |     |     | 470 |     |     |     | 475 |     |     |     |     | 480 |     |  |  |
| Phe | Ser | Glu | Ser | Asp | Ala | Asp | Asp | Lys | Met | Arg | Gln | Leu | Asn | Gly | Phe |  |  |
|     |     |     |     | 485 |     |     |     | 490 |     |     |     |     |     | 495 |     |  |  |
| Gln | Gln | Glu | Ile | Thr | Leu | Asn | Thr | Asn | Lys | Ile | Asp | Gln | Leu | Ile | Val |  |  |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |  |  |
| Phe | Gly | Glu | Gln | Leu | Ile | Gln | Lys | Ser | Glu | Pro | Leu | Asp | Ala | Val | Leu |  |  |
|     | 515 |     |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |  |  |
| Ile | Glu | Asp | Glu | Leu | Glu | Glu | Leu | His | Arg | Tyr | Cys | Gln | Glu | Val | Phe |  |  |
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| Gly | Arg | Val | Ser | Arg | Phe | His | Arg | Arg | Leu | Thr | Ser | Cys | Thr | Pro | Gly |  |  |
| 545 |     |     |     |     | 550 |     |     |     | 555 |     |     |     |     |     | 560 |  |  |
| Leu | Glu | Asp | Glu | Lys | Glu | Ala | Ser | Glu | Asn | Glu | Thr | Asp | Met | Glu | Asp |  |  |
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| Pro | Arg | Glu | Ile | Gln | Thr | Asp | Ser | Trp | Arg | Lys | Arg | Gly | Glu | Ser | Glu |  |  |
|     |     | 580 |     |     |     |     |     | 585 |     |     |     |     | 590 |     |     |  |  |
| Glu | Pro | Ser | Ser | Pro | Gln | Ser | Leu | Cys | His | Leu | Val | Ala | Pro | Gly | His |  |  |
|     | 595 |     |     |     |     |     | 600 |     |     |     |     | 605 |     |     |     |  |  |
| Glu | Arg | Ser | Gly | Cys | Glu | Thr | Pro | Val | Ser | Val | Asp | Ser | Ile | Pro | Leu |  |  |
| 610 |     |     |     |     |     | 615 |     |     |     |     | 620 |     |     |     |     |  |  |
| Glu | Trp | Asp | His | Thr | Gly | Asp | Val | Gly | Gly | Ser | Ser | Ser | His | Glu | Glu |  |  |
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| Asp | Gly | His | Ser | Trp | His | Val | Pro | Asp | Ser | Pro | Ser | Cys | Pro | Glu | His |  |  |
|     |     | 660 |     |     |     |     |     | 665 |     |     |     |     | 670 |     |     |  |  |
| His | Tyr | Lys | Gln | Met | Glu | Gly | Asp | Arg | Asn | Val | Pro | Pro | Val | Pro | Pro |  |  |
|     | 675 |     |     |     |     |     | 680 |     |     |     |     | 685 |     |     |     |  |  |
| Ala | Ser | Ser | Thr | Pro | Tyr | Lys | Pro | Pro | Tyr | Gly | Lys | Leu | Leu | Leu | Pro |  |  |
| 690 |     |     |     |     |     | 695 |     |     |     |     | 700 |     |     |     |     |  |  |
| Pro | Gly | Thr | Asp | Gly | Gly | Lys | Glu | Gly | Pro | Arg | Val | Leu | Asn | Gly | Asn |  |  |
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| Pro | Gln | Gln | Glu | Asp | Gly | Gly | Leu | Ala | Gly | Ile | Thr | Glu | Gln | Gln | Ser |  |  |
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| Gly | Ala | Phe | Asp | Arg | Trp | Glu | Met | Ile | Gln | Ala | Gln | Glu | Leu | His | Asn |  |  |
|     |     | 740 |     |     |     |     | 745 |     |     |     |     | 750 |     |     |     |  |  |
| Lys | Leu | Lys | Ile | Lys | Gln | Asn | Leu | Gln | Gln | Leu | Asn | Ser | Asp | Ile | Ser |  |  |
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| 770 |     |     |     |     |     | 775 |     |     |     |     | 780 |     |     |     |     |  |  |
| Lys | Met | Ala | Lys | Pro | Pro | Ser | Asp | Ile | Gln | Glu | Ile | Glu | Leu | Arg | Val |  |  |
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&lt;210&gt; 3792

&lt;211&gt; 288

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3792

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| Ala | Leu | Ser | Met | Gly | Gly | Lys | Val | Pro | Val | Ser | Glu | Gly | Leu | Glu | His |
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| Leu | Val | Glu | Lys | Met | Val | Asn | Pro | Thr | Thr | Val | Leu | Glu | Ser | Pro | His |
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| Ile | Lys | Asn | Leu | Trp | Asn | Arg | Lys | Pro | Leu | Lys | Val | Tyr | Gly | Gly | Arg |
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|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Pro | Val | Ile | Arg | Glu | Arg | Leu | Ser | Lys | Glu | Lys | Glu | Gly | Ser | Arg | Gly |
|     |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     | 160 |     |
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&lt;213&gt; Homo sapiens

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&lt;210&gt; 3796

&lt;211&gt; 294

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3796

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Val Asp Arg Glu Arg Phe Cys Arg Trp Ala Gly Leu Pro Arg Gln Gly
      50           55           60
Phe Pro Ile Ile Phe His Gly Val Met Gly Lys Asp Glu Arg Glu Gly
      65           70           75           80
Asn Ser Pro Ser Phe Phe Asn Pro Glu Glu Ala Ala Thr Val Thr Ser
      85           90           95
Tyr Leu Lys Leu Leu Leu Ala Pro Ser Ser Lys Lys Gly Lys Ala Arg
      100          105          110
Leu Ser Pro Arg Ser Val Gly Val Ile Ser Pro Tyr Arg Lys Gln Val
      115          120          125
Glu Lys Ile Arg Tyr Cys Ile Thr Lys Leu Asp Arg Glu Leu Arg Gly
      130          135          140
Leu Asp Asp Ile Lys Asp Leu Lys Val Gly Ser Val Glu Glu Phe Gln
      145          150          155          160
Gly Gln Glu Arg Ser Val Ile Leu Ile Ser Thr Val Arg Ser Ser Gln
      165          170          175
Ser Phe Val Gln Leu Asp Leu Asp Phe Asn Leu Gly Phe Leu Lys Asn
      180          185          190
Pro Lys Arg Phe Asn Val Ala Val Thr Arg Ala Lys Ala Leu Leu Ile
      195          200          205
Ile Val Gly Asn Pro Leu Leu Leu Gly His Asp Pro Asp Trp Lys Val
      210          215          220
Phe Leu Glu Phe Cys Lys Glu Asn Gly Gly Tyr Thr Gly Cys Pro Phe
      225          230          235          240
Pro Ala Lys Leu Asp Leu Gln Gln Gly Gln Asn Leu Leu Gln Gly Leu
      245          250          255
Ser Lys Leu Ser Pro Ser Thr Ser Gly Pro His Ser His Asp Tyr Leu
      260          265          270
Pro Gln Glu Arg Glu Gly Glu Gly Gly Leu Ser Leu Gln Val Glu Pro
      275          280          285
Glu Trp Arg Asn Glu Leu
      290

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&lt;210&gt; 3797

&lt;211&gt; 1970

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3797

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180

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1800

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 1860  
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 1920  
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 1970

<210> 3798

<211> 473

<212> PRT

<213> Homo sapiens

<400> 3798

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Arg | Trp | Arg | Leu | Pro | Leu | Thr | Cys | Leu | Leu | Leu | Gln | Val | Ile | Met |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Val | Ile | Leu | Phe | Gly | Val | Phe | Val | Arg | Tyr | Asp | Phe | Glu | Ala | Asp | Ala |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| His | Trp | Trp | Ser | Glu | Arg | Thr | His | Lys | Asn | Leu | Ser | Asp | Met | Glu | Asn |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Glu | Phe | Tyr | Tyr | Arg | Tyr | Pro | Ser | Phe | Gln | Asp | Val | His | Val | Met | Val |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Phe | Val | Gly | Phe | Gly | Phe | Leu | Met | Thr | Phe | Leu | Gln | Arg | Tyr | Gly | Phe |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Ser | Ala | Val | Gly | Phe | Asn | Phe | Leu | Leu | Ala | Ala | Phe | Gly | Ile | Gln | Trp |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Ala | Leu | Leu | Met | Gln | Gly | Trp | Phe | His | Phe | Leu | Gln | Asp | Arg | Tyr | Ile |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Val | Val | Gly | Val | Glu | Asn | Leu | Ile | Asn | Ala | Asp | Phe | Cys | Val | Ala | Ser |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Val | Cys | Val | Ala | Phe | Gly | Ala | Val | Leu | Gly | Lys | Val | Ser | Pro | Ile | Gln |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Leu | Leu | Ile | Met | Thr | Phe | Phe | Gln | Val | Thr | Leu | Phe | Ala | Val | Asn | Glu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Phe | Ile | Leu | Leu | Asn | Leu | Leu | Lys | Val | Lys | Asp | Ala | Gly | Gly | Ser | Met |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Thr | Ile | His | Thr | Phe | Gly | Ala | Tyr | Phe | Gly | Leu | Thr | Val | Thr | Arg | Ile |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Leu | Tyr | Arg | Arg | Asn | Leu | Glu | Gln | Ser | Lys | Glu | Arg | Gln | Asn | Ser | Val |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Tyr | Gln | Ser | Asp | Leu | Phe | Ala | Met | Ile | Gly | Thr | Leu | Phe | Leu | Trp | Met |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Tyr | Trp | Pro | Ser | Phe | Asn | Ser | Ala | Ile | Ser | Tyr | His | Gly | Asp | Ser | Gln |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     | 240 |     |
| His | Arg | Ala | Ala | Ile | Asn | Thr | Tyr | Cys | Ser | Leu | Ala | Ala | Cys | Val | Leu |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Thr | Ser | Val | Ala | Ile | Ser | Ser | Ala | Leu | His | Lys | Lys | Gly | Lys | Leu | Asp |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Met | Val | His | Ile | Gln | Asn | Ala | Thr | Leu | Ala | Gly | Gly | Val | Ala | Val | Gly |
|     | 275 |     |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Thr | Ala | Ala | Glu | Met | Met | Leu | Met | Pro | Tyr | Gly | Ala | Leu | Ile | Ile | Gly |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Phe | Val | Cys | Gly | Ile | Ile | Ser | Thr | Leu | Gly | Phe | Val | Tyr | Leu | Thr | Pro |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     | 320 |     |
| Phe | Leu | Glu | Ser | Arg | Leu | His | Ile | Gln | Asp | Thr | Cys | Gly | Ile | Asn | Asn |

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          325          330          335
Leu His Gly Ile Pro Gly Ile Ile Gly Gly Ile Val Gly Ala Val Thr
          340          345          350
Ala Ala Ser Ala Ser Leu Glu Val Tyr Gly Lys Glu Gly Leu Val His
          355          360          365
Ser Phe Asp Phe Gln Gly Phe Asn Gly Asp Trp Thr Ala Arg Thr Gln
          370          375          380
Gly Lys Phe Gln Ile Tyr Gly Leu Leu Val Thr Leu Ala Met Ala Leu
385          390          395          400
Met Gly Gly Ile Ile Val Gly Leu Ile Leu Arg Leu Pro Phe Trp Gly
          405          410          415
Gln Pro Ser Asp Glu Asn Cys Phe Glu Asp Ala Val Tyr Trp Glu Met
          420          425          430
Pro Glu Gly Asn Ser Thr Val Tyr Ile Pro Glu Asp Pro Thr Phe Lys
          435          440          445
Pro Ser Gly Pro Ser Val Pro Ser Val Pro Met Val Ser Pro Leu Pro
          450          455          460
Met Ala Ser Ser Val Pro Leu Val Pro
465          470

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&lt;210&gt; 3799

&lt;211&gt; 210

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3799

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120
tctagctcct cttcttcttc ctogtctctc tctcttctc ccagtgatgg ccggaagaag
180
cgggggaagt acaaggacaa gaggaggaag
210

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&lt;210&gt; 3800

&lt;211&gt; 70

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3800

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Ser Arg Asn Cys Ser Ala Ser Thr Ser Gln Ala Ser Pro Ser Pro Cys
1          5          10          15
Ile Thr Glu Arg Ser Lys Gln Lys Ala Arg Arg Arg Thr Arg Ser Ser
          20          25          30
Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser
          35          40          45
Ser Ser Ser Ser Ser Ser Ser Asp Gly Arg Lys Lys Arg Gly Lys Tyr
          50          55          60
Lys Asp Lys Arg Arg Lys
65          70

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&lt;210&gt; 3801

&lt;211&gt; 4070

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3801

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120  
gcccagcag cgcgcgcat ggcaatcaaa tttctggaag tcatcaagcc cttctgtgtc  
180  
atcctgccgg aaattcagaa gccagagagg aagattcagt ttaaggagaa agtgcgtgtg  
240  
accgctatca cctctttat cttcttagtg tgctgccaga tccccctgtt tgggatcatg  
300  
tcttcagatt cagctgaccc tttctattgg atgagagtga ttctagcctc taacagagggc  
360  
acattgatgg agctagggat ctctcctatt gtcacgtctg gccttataat gcaactcttg  
420  
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1500

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 3960  
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 4070

&lt;210&gt; 3802

&lt;211&gt; 476

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3802

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Ile | Lys | Phe | Leu | Glu | Val | Ile | Lys | Pro | Phe | Cys | Val | Ile | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Pro | Glu | Ile | Gln | Lys | Pro | Glu | Arg | Lys | Ile | Gln | Phe | Lys | Glu | Lys | Val |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Trp | Thr | Ala | Ile | Thr | Leu | Phe | Ile | Phe | Leu | Val | Cys | Cys | Gln | Ile |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Pro | Leu | Phe | Gly | Ile | Met | Ser | Ser | Asp | Ser | Ala | Asp | Pro | Phe | Tyr | Trp |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Met | Arg | Val | Ile | Leu | Ala | Ser | Asn | Arg | Gly | Thr | Leu | Met | Glu | Leu | Gly |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Ile | Ser | Pro | Ile | Val | Thr | Ser | Gly | Leu | Ile | Met | Gln | Leu | Leu | Ala | Gly |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Ala | Lys | Ile | Ile | Glu | Val | Gly | Asp | Thr | Pro | Lys | Asp | Arg | Ala | Leu | Phe |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Asn | Gly | Ala | Gln | Lys | Leu | Phe | Gly | Met | Ile | Ile | Thr | Ile | Gly | Gln | Ser |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Ile | Val | Tyr | Val | Met | Thr | Gly | Met | Tyr | Gly | Asp | Pro | Ser | Glu | Met | Gly |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ala | Gly | Ile | Cys | Leu | Leu | Ile | Ile | Ile | Gln | Leu | Phe | Val | Ala | Gly | Leu |
| 145 |     |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     | 160 |
| Ile | Val | Leu | Leu | Leu | Asp | Glu | Leu | Leu | Gln | Lys | Gly | Tyr | Gly | Leu | Gly |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Ser | Gly | Ile | Ser | Leu | Phe | Ile | Ala | Thr | Asn | Ile | Cys | Glu | Thr | Ile | Val |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Trp | Lys | Ala | Phe | Ser | Pro | Thr | Thr | Ile | Asn | Thr | Gly | Arg | Gly | Thr | Glu |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Phe | Glu | Gly | Ala | Val | Ile | Ala | Leu | Phe | His | Leu | Leu | Ala | Thr | Arg | Thr |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Asp | Lys | Val | Arg | Ala | Leu | Arg | Glu | Ala | Phe | Tyr | Arg | Gln | Asn | Leu | Pro |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Asn | Leu | Met | Asn | Leu | Ile | Ala | Thr | Ile | Phe | Val | Phe | Ala | Val | Val | Ile |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Tyr | Phe | Gln | Gly | Phe | Arg | Val | Asp | Leu | Pro | Ile | Lys | Ser | Ala | Arg | Tyr |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |
| Arg | Gly | Gln | Tyr | Asn | Thr | Tyr | Pro | Ile | Lys | Leu | Phe | Tyr | Thr | Ser | Asn |
|     |     | 275 |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |
| Ile | Pro | Ile | Ile | Leu | Gln | Ser | Ala | Leu | Val | Ser | Asn | Leu | Tyr | Val | Ile |
|     | 290 |     |     |     | 295 |     |     |     |     |     | 300 |     |     |     |     |
| Ser | Gln | Met | Leu | Ser | Ala | Arg | Phe | Ser | Gly | Asn | Phe | Leu | Val | Asn | Leu |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Leu | Gly | Gln | Trp | Ser | Asp | Thr | Ser | Ser | Gly | Gly | Pro | Ala | Arg | Ala | Tyr |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Pro | Val | Gly | Gly | Leu | Cys | Tyr | Tyr | Leu | Ser | Pro | Pro | Glu | Ser | Phe | Gly |
|     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |     |
| Ser | Val | Leu | Glu | Asp | Pro | Val | His | Ala | Val | Val | Tyr | Ile | Val | Phe | Met |
|     | 355 |     |     |     | 360 |     |     |     |     |     |     | 365 |     |     |     |
| Leu | Gly | Ser | Cys | Ala | Phe | Phe | Ser | Lys | Thr | Trp | Ile | Glu | Val | Ser | Gly |
|     | 370 |     |     |     | 375 |     |     |     |     |     | 380 |     |     |     |     |
| Ser | Ser | Ala | Lys | Asp | Val | Ala | Lys | Gln | Leu | Lys | Glu | Gln | Gln | Met | Val |
| 385 |     |     |     | 390 |     |     |     |     |     | 395 |     |     |     |     | 400 |
| Met | Arg | Gly | His | Arg | Glu | Thr | Ser | Met | Val | His | Glu | Leu | Asn | Arg | Tyr |
|     |     |     | 405 |     |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Ile | Pro | Thr | Ala | Ala | Ala | Phe | Gly | Gly | Leu | Cys | Ile | Gly | Ala | Leu | Ser |
|     |     | 420 |     |     |     |     | 425 |     |     |     |     |     | 430 |     |     |
| Val | Leu | Ala | Asp | Phe | Leu | Gly | Ala | Ile | Gly | Ser | Gly | Thr | Gly | Ile | Leu |
|     | 435 |     |     |     | 440 |     |     |     |     |     | 445 |     |     |     |     |
| Leu | Ala | Val | Thr | Ile | Ile | Tyr | Gln | Tyr | Phe | Glu | Ile | Phe | Val | Lys | Glu |
|     | 450 |     |     |     | 455 |     |     |     |     |     | 460 |     |     |     |     |
| Gln | Ser | Glu | Val | Gly | Ser | Met | Gly | Ala | Leu | Leu | Phe |     |     |     |     |
| 465 |     |     |     |     | 470 |     |     |     |     |     |     |     |     |     |     |

<210> 3803

<211> 345

<212> DNA

<213> Homo sapiens

<400> 3803

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 120  
 aaatatgccc acttgagtga tgagcttcat gtattaattg aagtgtttgc tccacctggg  
 180  
 gaagcttatt cacgtatgag tcatgcattg gaagagatta aaaaattcct ggttcctgac  
 240  
 tacaatgatg aaattcgtca ggaacaacta cgtgaattat cttacttaaa tggctcagag  
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 345

<210> 3804

<211> 115

<212> PRT

<213> Homo sapiens

<400> 3804

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Arg | Gly | Asn | Ser | Leu | Lys | Arg | Leu | Gln | Glu | Glu | Thr | Gly | Ala | Lys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Met | Ser | Ile | Leu | Gly | Lys | Gly | Ser | Met | Arg | Asp | Lys | Ala | Lys | Glu | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Glu | Leu | Arg | Lys | Ser | Gly | Glu | Ala | Lys | Tyr | Ala | His | Leu | Ser | Asp | Glu |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Leu | His | Val | Leu | Ile | Glu | Val | Phe | Ala | Pro | Pro | Gly | Glu | Ala | Tyr | Ser |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Arg | Met | Ser | His | Ala | Leu | Glu | Glu | Ile | Lys | Lys | Phe | Leu | Val | Pro | Asp |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Tyr | Asn | Asp | Glu | Ile | Arg | Gln | Glu | Gln | Leu | Arg | Glu | Leu | Ser | Tyr | Leu |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Asn | Gly | Ser | Glu | Asp | Ser | Gly | Arg | Gly | Arg | Gly | Ile | Arg | Gly | Arg | Gly |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ile | Arg | Ile |     |     |     |     |     |     |     |     |     |     |     |     |     |
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<210> 3805

<211> 1923

<212> DNA

<213> Homo sapiens

<400> 3805

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 120  
 aagagcccgt tgccctaccag atgccaggcc ctgtgcttcc tccctgccttt gaggttttgg  
 180  
 cttgtgatca accaggaggg aaacatgggt actgctcgcc aggaacctcg cctggctcctg  
 240  
 atttcctga cctgcgatgg tgacaccctg actctcagtg cagcctacac aaaggaccta  
 300  
 ctactgccta tcaaaacgcc caccacaaat gcagtgcaca agtgcagagt gcacggcctg  
 360  
 gagatagagg gcagggactg tggcgaggcc gccgccagtg ggataaccag cttctctgaag  
 420

tcacagccct accgcctggg gcacttcgag cctcacatgc gaccgagacg tectcatcaa  
480  
atagcagact tgttccgacc caaggaccag attgcttact cagacaccag cccattcttg  
540  
atcctttctg aggcgtcgct ggcgatctc aactccaggc tagagaagaa agttaaaagca  
600  
accaacttca ggcccaatat tgtaatttca ggatgcatg tctatgcaga ggattcttgg  
660  
gatgagcttc ttattgggga cgtggaactg aaaaggggga tggcttggtc cagatgcatt  
720  
ttaaccacag tggaccacga caccggtgtc atgagcagga aggaaccgct ggaaacactg  
780  
aagagttatc gccagtgtga cccttcagaa cgaaagtat atggaaaatc accactcttt  
840  
gggcagtatt ttgtgctgga aaaccaggga accatcaaag tgggagaccc tgtgtacctg  
900  
ctgggccagt aatgggaacc gtatgtcctg gaatattaga tgccttttaa aaatgttctc  
960  
aaaaatgaca acacttgaag catggtgttt cagaactgag acctctacat tttctttaa  
1020  
tttgtgattt tcacattttt cgtcttttgg acttctgggtg tctcaatgct tcaatgtccc  
1080  
agtgcacaaa gtaaagaaat atagtctcaa taacttagta ggacttcagt aagtcactta  
1140  
aatgacaaga caggattctg aaaactcccc gtttaactga ttatggaata gttctttctc  
1200  
ctgcttctcc gtttatctac caagagcgca gacttgcac ctgtcactac cactcgtag  
1260  
agaaagagaa gaagagaaa aggaagagtg ggtgggctgg aagaatgtcc tagaatgtgt  
1320  
tattgcccc gtcatgagg tacgcaatga aaattaaatt gcaccccaaa tatggctgga  
1380  
atgccacttc ccttttcttc tcaagccccg ggctagcttt tgaaatggca taaagactga  
1440  
ggtgaccttc aggaagcact gcagatatta atttccata gatctggatc tggccctgct  
1500  
gcttctcaga cagcattgga tttctaaag gtgtcagga ggatgggtgt gtagtcatgg  
1560  
aggaccctg gatccttgcc attccctca gctaatgacg gagtgtctct tctccagttc  
1620  
cgggtgaaaa agttctgaat tctgtggagg agaagaaaag tgattcagtg atttcagata  
1680  
gactactgaa aacctttaa gggggaaaag gaaagcatat gtcagttgtt taaaacccaa  
1740  
tatctatttt ttaactgatt gtataactct aagatctgat gaagtatatt ttttattgcc  
1800  
attttgcct ttgattatat tgggaagttg actaaacttg aaaaatgttt ttaaaactgt  
1860  
gaataaatgg aagctacttt gaaaaaaaa aaaaaaaaa aaaaaaaaa aaaaaaaaa  
1920  
aaa  
1923

&lt;210&gt; 3806

<211> 280  
 <212> PRT  
 <213> Homo sapiens

<400> 3806

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Asp Lys Ser Pro Leu Pro Thr Arg Cys Gln Ala Leu Cys Phe Leu Leu
      20           25           30
Pro Leu Arg Phe Trp Leu Val Ile Asn Gln Glu Gly Asn Met Val Thr
      35           40           45
Ala Arg Gln Glu Pro Arg Leu Val Leu Ile Ser Leu Thr Cys Asp Gly
      50           55           60
Asp Thr Leu Thr Leu Ser Ala Ala Tyr Thr Lys Asp Leu Leu Leu Pro
65           70           75           80
Ile Lys Thr Pro Thr Thr Asn Ala Val His Lys Cys Arg Val His Gly
      85           90           95
Leu Glu Ile Glu Gly Arg Asp Cys Gly Glu Ala Ala Ala Gln Trp Ile
      100          105          110
Thr Ser Phe Leu Lys Ser Gln Pro Tyr Arg Leu Val His Phe Glu Pro
      115          120          125
His Met Arg Pro Arg Arg Pro His Gln Ile Ala Asp Leu Phe Arg Pro
      130          135          140
Lys Asp Gln Ile Ala Tyr Ser Asp Thr Ser Pro Phe Leu Ile Leu Ser
145          150          155          160
Glu Ala Ser Leu Ala Asp Leu Asn Ser Arg Leu Glu Lys Lys Val Lys
      165          170          175
Ala Thr Asn Phe Arg Pro Asn Ile Val Ile Ser Gly Cys Asp Val Tyr
      180          185          190
Ala Glu Asp Ser Trp Asp Glu Leu Leu Ile Gly Asp Val Glu Leu Lys
      195          200          205
Arg Val Met Ala Cys Ser Arg Cys Ile Leu Thr Thr Val Asp Pro Asp
210          215          220
Thr Gly Val Met Ser Arg Lys Glu Pro Leu Glu Thr Leu Lys Ser Tyr
225          230          235          240
Arg Gln Cys Asp Pro Ser Glu Arg Lys Leu Tyr Gly Lys Ser Pro Leu
      245          250          255
Phe Gly Gln Tyr Phe Val Leu Glu Asn Pro Gly Thr Ile Lys Val Gly
      260          265          270
Asp Pro Val Tyr Leu Leu Gly Gln
      275          280

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<210> 3807  
 <211> 372  
 <212> DNA  
 <213> Homo sapiens

<400> 3807

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120
cagggaggtc gcttccccgt gctcagctac caccgggctc ccagcggcag agggagcgcg
180

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cctccccac gctccgcccc tgggtggctg cgtcctttct gggccttttc tttttggccc  
 240  
 ggtcaattcg cggcgtagcc gctgccccaa ctctgcccc attctggtec cgcccccttc  
 300  
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 360  
 cccgcgaagc tt  
 372

<210> 3808

<211> 85

<212> PRT

<213> Homo sapiens

<400> 3808

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Ala | Trp | Arg | Leu | Ser | Glu | Val | Asn | Glu | Asp | Phe | Ser | Leu | Cys | Pro |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Arg | Tyr | Pro | Arg | Ala | Val | Ile | Val | Pro | Tyr | Leu | Val | Asp | Asp | Ala |     |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Ala | Arg | Ser | Ala | Arg | Phe | Arg | Gln | Gly | Gly | Arg | Phe | Pro | Val | Leu |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ser | Tyr | His | Pro | Ala | Pro | Ser | Gly | Arg | Gly | Ser | Ala | Pro | Ser | Pro | Arg |
|     |     |     | 50  |     |     |     | 55  |     |     |     | 60  |     |     |     |     |
| Ser | Ala | Pro | Gly | Trp | Leu | Arg | Pro | Phe | Trp | Ala | Phe | Ser | Phe | Trp | Pro |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Gly | Gln | Phe | Ala | Ala |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     |     |     | 85  |     |     |     |     |     |     |     |     |     |     |

<210> 3809

<211> 1221

<212> DNA

<213> Homo sapiens

<400> 3809

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 120  
 ataagctgtg actttttgcc cctgatgcca taagttggag ggtcctctgc tcaaaacata  
 180  
 tggtacacac ttctccttct ttcatctgg tatcatgtat catctctcag atccaataag  
 240  
 aaaacattcc cacgtccttc cctccctccc tagtaccaag gtccctcatct cagttttcat  
 300  
 ggggtccatgg agggctgcct ctagtgatga gctggaatct taaggcctga aatagagcca  
 360  
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 420  
 aaggaattct ccaggaagggt aggcaggcct cctacaccat cccgcagggt atacagggggc  
 480  
 actcgcacca ggcccagcac ctccagcccg tggtccttgg cgcgtgttgc gccggcctcc  
 540  
 acagccaaca gtcctctgag ctccagcgt tggcatagaa gtgccacaac gcgtggccct  
 600

gaccgcacgt gggagctgcg gtagtcagtg cgctccacgc ggaaagcggc agccgcttcg  
 660  
 cccagctcct cgcgcagctc gcgggttcagc ccgtcctcta ggcttctgtc ctgcgtgtcc  
 720  
 acgaatccgc cggggaagcc caggcgtcca tcgaagcgca tctgcatcag tatggcgtag  
 780  
 cgcagcggga tgcggccgaa gagcatccca gggtcggcg cgtagaggag agcgtaggta  
 840  
 ctctgttttg ctaattctgt cttaactctt cagctcagca agactactgg gctctctttg  
 900  
 ggtttccctt ctctgtgcta tgcctccaga caataagcta gggcacttca tttgtttcgt  
 960  
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 1020  
 gtacattttg tctgggtttt tagttaaggc aggaggataa atctgttgcc tgtttttcca  
 1080  
 tcattggccag aagcaaaatc tgtatcatgt tctagtaatt ttcacaacta tcaaagttag  
 1140  
 tcttactaat cttttctcaa tacctaaagt tcaaaatctc ttttgtcaat ctgttatcaa  
 1200  
 gtactgttat ttttccttaa g  
 1221

&lt;210&gt; 3810

&lt;211&gt; 97

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3810

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Gly | Ile | Leu | Arg | Pro | Glu | Ile | Glu | Pro | Asp | Cys | Ser | Ser | Pro | Lys |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Ser | Trp | Arg | Ala | Ser | Ser | Asn | Cys | Ser | Arg | Ala | Glu | Pro | Ile | Lys | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Phe | Ser | Arg | Lys | Val | Gly | Arg | Pro | Pro | Thr | Pro | Ser | Arg | Arg | Val | Tyr |
|     |     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Arg | Gly | Thr | Arg | Thr | Arg | Pro | Ser | Thr | Ser | Ser | Pro | Trp | Ser | Leu | Ala |
|     |     |     | 50  |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Arg | Val | Ala | Pro | Ala | Ser | Thr | Ala | Asn | Ser | Ser | Ser | Ser | Ser | Asp | Ala |
|     |     |     |     |     |     | 70  |     |     |     | 75  |     |     |     | 80  |     |
| Trp | His | Arg | Ser | Ala | Thr | Thr | Arg | Gly | Pro | Asp | Pro | Thr | Trp | Glu | Leu |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |

Arg

&lt;210&gt; 3811

&lt;211&gt; 296

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3811

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 cctgtcctta aggtcagaa ctgtagaccc tcaggcagac ccgttctccc ctaccagagg  
 120

acaccacgcc agatatctgg gcagcagggg catctgacct ggggtgcttg ctggcagcac  
 180  
 tgcctggaca gcagggcctc cttagggcca cctcccaacc cagctagggg gcgtcttaag  
 240  
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 296

<210> 3812

<211> 94

<212> PRT

<213> Homo sapiens

<400> 3812

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Ala | Arg | Ala | Arg | Ser | Leu | Ile | Val | Pro | Pro | Thr | Ala | Gln | Val |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Pro | Val | Leu | Lys | Ala | Gln | Asn | Cys | Arg | Pro | Ser | Gly | Arg | Pro | Val | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Pro | Tyr | Gln | Arg | Thr | Pro | Arg | Gln | Ile | Ser | Gly | Gln | Gln | Gly | His | Leu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Thr | Trp | Gly | Ala | Cys | Trp | Gln | His | Cys | Leu | Asp | Ser | Arg | Ala | Ser | Leu |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gly | Pro | Pro | Pro | Asn | Pro | Ala | Arg | Glu | Arg | Leu | Lys | Ala | Cys | Pro | Pro |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Cys | Trp | Ala | Trp | Val | Gly | Arg | Ser | Gly | Thr | Gly | Pro | Ser | Arg |     |     |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     |     |

<210> 3813

<211> 1419

<212> DNA

<213> Homo sapiens

<400> 3813

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 120  
 gactcactga gtgccgcgcg cacactgcac accttcgata tgcttggctt cgggcgaagc  
 180  
 tcaaggccag cattcccaag ggaccggag ggggctgagg atgagtttgt gacatcgata  
 240  
 gagacatggc gggagaccat ggggatcccc agcatgatcc tcctggggca cagtgtggga  
 300  
 ggattcctgg ccacttctta ctcaatcaag taccctgata gagttaaaca cctcatcctg  
 360  
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 420  
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 480  
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 540  
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 600  
 aatcccagtg gtgagacagc attcaaagcc atgatggagt cctttggctg ggccccggcg  
 660

cctatgctgg agcgaattca cttgattcga aaagatgtgc ctatcactat gatctacggg  
 720  
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 780  
 tatgtccgag acatggagat taaggggtgcc tcccaccatg tctatgctga ccagccacac  
 840  
 atcttcaatg ctgtggtgga ggagatctgc gactcagttg attgagctgc tctctgaaga  
 900  
 ggaagaggag aaagccagag agtcactctt acctccctgt ctgcttactc acccactctg  
 960  
 tcctttcttc accaactaac atgtgccagc caggcagagt cttgtactgt tcccagaaca  
 1020  
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 1080  
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 1140  
 ctccttgcca agtggttacc agatgggtgga ggatgtgaag ggattgcacc aagccacatt  
 1200  
 cactctctct gtggcctttc ttctctctggg caaagaagggt cttccagtgg cctttctctca  
 1260  
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<210> 3814

<211> 294

<212> PRT

<213> Homo sapiens

<400> 3814

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| Arg | Ser | Lys | Trp | Trp | Ala | Pro | Ser | Glu | Met | Val | Thr | Val | Ser | Pro | Glu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Gln | Asn | Asp | Arg | Thr | Pro | Leu | Val | Met | Val | His | Gly | Phe | Gly | Gly | Gly |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Val | Gly | Leu | Trp | Ile | Leu | Asn | Met | Asp | Ser | Leu | Ser | Ala | Arg | Arg | Thr |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu | His | Thr | Phe | Asp | Leu | Leu | Gly | Phe | Gly | Arg | Ser | Ser | Arg | Pro | Ala |
|     |     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |
| Phe | Pro | Arg | Asp | Pro | Glu | Gly | Ala | Glu | Asp | Glu | Phe | Val | Thr | Ser | Ile |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Glu | Thr | Trp | Arg | Glu | Thr | Met | Gly | Ile | Pro | Ser | Met | Ile | Leu | Leu | Gly |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| His | Ser | Leu | Gly | Gly | Phe | Leu | Ala | Thr | Ser | Tyr | Ser | Ile | Lys | Tyr | Pro |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Asp | Arg | Val | Lys | His | Leu | Ile | Leu | Val | Asp | Pro | Trp | Gly | Phe | Pro | Leu |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Arg | Pro | Thr | Asn | Pro | Ser | Glu | Ile | Arg | Ala | Pro | Pro | Ala | Trp | Val | Lys |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ala | Val | Ala | Ser | Val | Leu | Gly | Arg | Ser | Asn | Pro | Leu | Ala | Val | Leu | Arg |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Val | Ala | Gly | Pro | Trp | Gly | Pro | Gly | Leu | Val | Gln | Arg | Phe | Arg | Pro | Asp |



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&lt;210&gt; 3816

&lt;211&gt; 707

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3816

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Asp | Glu | Arg | Pro | His | Tyr | Tyr | Gly | Lys | His | Gly | Thr | Pro | Gln |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Lys | Tyr | Asp | Pro | Thr | Phe | Lys | Gly | Pro | Ile | Tyr | Asn | Arg | Gly | Cys | Thr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asp | Ile | Ile | Cys | Cys | Val | Phe | Leu | Leu | Leu | Ala | Ile | Val | Gly | Tyr | Val |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ala | Val | Gly | Ile | Ile | Ala | Trp | Thr | His | Gly | Asp | Pro | Arg | Lys | Val | Ile |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Tyr | Pro | Thr | Asp | Ser | Arg | Gly | Glu | Phe | Cys | Gly | Gln | Lys | Gly | Thr | Lys |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Asn | Glu | Asn | Lys | Pro | Tyr | Leu | Phe | Tyr | Phe | Asn | Ile | Val | Lys | Cys | Ala |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ser | Pro | Leu | Val | Leu | Leu | Glu | Phe | Gln | Cys | Pro | Thr | Pro | Gln | Ile | Cys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Val | Glu | Lys | Cys | Pro | Asp | Arg | Tyr | Leu | Thr | Tyr | Leu | Asn | Ala | Arg | Ser |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ser | Arg | Asp | Phe | Glu | Tyr | Tyr | Lys | Gln | Phe | Cys | Val | Pro | Gly | Phe | Lys |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Asn | Asn | Lys | Gly | Val | Ala | Glu | Val | Leu | Arg | Asp | Gly | Asp | Cys | Pro | Ala |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Val | Leu | Ile | Pro | Ser | Lys | Pro | Leu | Ala | Arg | Arg | Cys | Phe | Pro | Ala | Ile |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| His | Ala | Tyr | Lys | Gly | Val | Leu | Met | Val | Gly | Asn | Glu | Thr | Thr | Tyr | Glu |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |
| Asp | Gly | His | Gly | Ser | Arg | Lys | Asn | Ile | Thr | Asp | Leu | Val | Glu | Gly | Ala |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Lys | Lys | Ala | Asn | Gly | Val | Leu | Glu | Ala | Arg | Gln | Leu | Ala | Met | Arg | Ile |
|     | 210 |     |     |     |     | 215 |     |     |     | 220 |     |     |     |     |     |
| Phe | Glu | Asp | Tyr | Thr | Val | Ser | Trp | Tyr | Trp | Ile | Ile | Ile | Gly | Leu | Val |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Ile | Ala | Met | Ala | Met | Ser | Leu | Leu | Phe | Ile | Ile | Leu | Leu | Arg | Phe | Leu |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Ala | Gly | Ile | Met | Val | Trp | Val | Met | Ile | Ile | Met | Val | Ile | Leu | Val | Leu |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     |     | 270 |     |     |
| Gly | Tyr | Gly | Ile | Phe | His | Cys | Tyr | Met | Glu | Tyr | Ser | Arg | Leu | Arg | Gly |
|     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |     |
| Glu | Ala | Gly | Ser | Asp | Val | Ser | Leu | Val | Asp | Leu | Gly | Phe | Gln | Thr | Asp |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Phe | Arg | Val | Tyr | Leu | His | Leu | Arg | Gln | Thr | Trp | Leu | Ala | Phe | Met | Ile |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Ile | Leu | Ser | Ile | Leu | Glu | Val | Ile | Ile | Ile | Leu | Leu | Leu | Ile | Phe | Leu |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     |     | 335 |     |
| Arg | Lys | Arg | Ile | Leu | Ile | Ala | Ile | Ala | Leu | Ile | Lys | Glu | Ala | Ser | Arg |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Ala | Val | Gly | Tyr | Val | Met | Cys | Ser | Leu | Leu | Tyr | Pro | Leu | Val | Thr | Phe |
|     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |     |
| Phe | Leu | Leu | Cys | Leu | Cys | Ile | Ala | Tyr | Trp | Ala | Ser | Thr | Ala | Val | Phe |
|     | 370 |     |     |     |     | 375 |     |     |     | 380 |     |     |     |     |     |
| Leu | Ser | Thr | Ser | Asn | Glu | Ala | Val | Tyr | Lys | Ile | Phe | Asp | Asp | Ser | Pro |
| 385 |     |     |     | 390 |     |     |     |     |     | 395 |     |     |     |     | 400 |
| Cys | Pro | Xaa | Tyr | Cys | Glu | Asn | Leu | Xaa | Asn | Pro | Glu | Thr | Phe | Pro | Ser |
|     |     |     | 405 |     |     |     |     | 410 |     |     |     |     |     | 415 |     |
| Ser | Asn | Glu | Ser | Arg | Gln | Cys | Pro | Asn | Ala | Arg | Cys | Gln | Phe | Ala | Phe |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Tyr | Gly | Gly | Glu | Ser | Gly | Tyr | His | Arg | Ala | Leu | Leu | Gly | Leu | Gln | Ile |
|     | 435 |     |     |     |     | 440 |     |     |     |     |     | 445 |     |     |     |
| Phe | Asn | Ala | Phe | Met | Phe | Phe | Trp | Leu | Ala | Asn | Phe | Val | Leu | Ala | Leu |
|     | 450 |     |     |     |     | 455 |     |     |     | 460 |     |     |     |     |     |
| Gly | Gln | Val | Thr | Leu | Ala | Gly | Ala | Phe | Ala | Ser | Tyr | Tyr | Trp | Ala | Leu |
| 465 |     |     |     | 470 |     |     |     |     |     | 475 |     |     |     |     | 480 |
| Arg | Lys | Pro | Asp | Asp | Leu | Pro | Ala | Phe | Pro | Leu | Phe | Ser | Ala | Phe | Gly |



&lt;213&gt; Homo sapiens

&lt;400&gt; 3818

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Arg Val Val His Asn Trp Asp Phe Glu Pro Arg Lys Val Ser Arg Cys
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Arg Glu Ile Asn Pro Leu Leu Phe Ser Tyr Val Glu Glu Leu Val Glu
      35           40           45
Ile Arg Lys Leu Arg Gln Asp Ile Leu Leu Met Lys Pro Tyr Phe Ile
      50           55           60
Thr Cys Arg Glu Ala Met Glu Ala Arg Leu Leu Leu Gln Asp Leu Leu
      65           70           75           80
Asp Val His Ala Gly Arg Leu Gly Cys Ser Leu Thr Glu Ile His Thr
      85           90           95
Leu Phe Ala Lys His Ile Lys Leu Asp Cys Glu Arg Cys Gln Ala Lys
      100          105          110
Gly Phe Val Cys Glu Leu Cys Arg Glu Gly Asp Val Leu Phe Pro Phe
      115          120          125
Asp Ser His Thr Ser Val Cys Ala Asp Cys Phe
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&lt;210&gt; 3819

&lt;211&gt; 1731

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3819

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&lt;210&gt; 3820

&lt;211&gt; 535

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3820

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Pro | Pro | Pro | Pro | Gly | Met | Phe | Ile | Cys | Leu | Glu | Pro | Trp | Ala | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ile | Ser | Gln | Gly | Ser | Leu | Thr | Ser | Pro | Thr | Pro | Arg | Ala | Ser | Leu | Leu |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Tyr | Phe | Phe | Thr | Asn | Cys | Ser | Ile | Ser | Phe | Thr | Ser | Leu | Gly | Asp | Asn |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Ser | Trp | His | Phe | Glu | Gly | Ser | Trp | Ser | Cys | Ala | Gly | Ser | Cys | Phe | Ala |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Ser | Cys | Phe | Phe | Arg | Tyr | Cys | Ala | Pro | Ser | Glu | Pro | Ala | Thr | Gly | Arg |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |
| Arg | Lys | Phe | Asp | Gly | Ala | Gly | Arg | Val | Ala | Val | Glu | Arg | Arg | Arg | Gly |
|     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |     |
| Ser | Ser | Ala | Gly | Phe | Pro | Cys | Ser | Gln | Arg | Ser | Arg | Arg | Pro | Ala | Glu |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |     |
| Pro | Gly | Arg | Gly | Ile | Thr | Asp | Arg | Arg | Arg | Gly | Pro | Ile | Gly | Arg |     |

|   |     |     |
|---|-----|-----|
| 115   | 120 | 125 |
| Val Asn Met Asp Leu Glu Asn Lys Val Lys Lys Met Gly Leu Gly His |     |     |
| 130   | 135 | 140 |
| Glu Gln Gly Phe Gly Ala Pro Cys Leu Lys Cys Lys Glu Lys Cys Glu |     |     |
| 145   | 150 | 155 |
| Gly Phe Glu Leu His Phe Trp Arg Lys Ile Cys Arg Asn Cys Lys Cys |     |     |
| 165   | 170 | 175 |
| Gly Gln Glu Glu His Asp Val Leu Leu Ser Asn Glu Glu Asp Arg Lys |     |     |
| 180   | 185 | 190 |
| Val Gly Lys Leu Phe Glu Asp Thr Lys Tyr Thr Thr Leu Ile Ala Lys |     |     |
| 195   | 200 | 205 |
| Leu Lys Ser Asp Gly Ile Pro Met Tyr Lys Arg Asn Val Met Ile Leu |     |     |
| 210   | 215 | 220 |
| Thr Asn Pro Val Ala Ala Lys Lys Asn Val Ser Ile Asn Thr Val Thr |     |     |
| 225   | 230 | 235 |
| Tyr Glu Trp Ala Pro Pro Val Gln Asn Gln Ala Leu Ala Arg Gln Tyr |     |     |
| 245   | 250 | 255 |
| Met Gln Met Leu Pro Lys Glu Lys Gln Pro Val Ala Gly Ser Glu Gly |     |     |
| 260   | 265 | 270 |
| Ala Gln Tyr Arg Lys Lys Gln Leu Ala Lys Gln Leu Pro Ala His Asp |     |     |
| 275   | 280 | 285 |
| Gln Asp Pro Ser Lys Cys His Glu Leu Ser Pro Arg Glu Val Lys Glu |     |     |
| 290   | 295 | 300 |
| Met Glu Gln Phe Val Lys Lys Tyr Lys Ser Glu Ala Leu Gly Val Gly |     |     |
| 305   | 310 | 315 |
| Asp Val Lys Leu Pro Cys Glu Met Asp Ala Gln Gly Pro Lys Gln Met |     |     |
| 325   | 330 | 335 |
| Asn Ile Pro Gly Gly Asp Arg Ser Thr Pro Ala Ala Val Gly Ala Met |     |     |
| 340   | 345 | 350 |
| Glu Asp Lys Ser Ala Glu His Lys Arg Thr Gln Tyr Ser Cys Tyr Cys |     |     |
| 355   | 360 | 365 |
| Cys Lys Leu Ser Met Lys Glu Gly Asp Pro Ala Ile Tyr Ala Glu Arg |     |     |
| 370   | 375 | 380 |
| Ala Gly Tyr Asp Lys Leu Trp His Pro Ala Cys Phe Val Cys Ser Thr |     |     |
| 385   | 390 | 395 |
| Cys His Glu Leu Leu Val Asp Met Ile Tyr Phe Trp Lys Asn Glu Lys |     |     |
| 405   | 410 | 415 |
| Leu Tyr Cys Gly Arg His Tyr Cys Asp Ser Glu Lys Pro Arg Cys Ala |     |     |
| 420   | 425 | 430 |
| Gly Cys Asp Glu Leu Ile Phe Ser Asn Glu Tyr Thr Gln Ala Glu Asn |     |     |
| 435   | 440 | 445 |
| Gln Asn Trp His Leu Lys His Phe Cys Cys Phe Asp Cys Asp Ser Ile |     |     |
| 450   | 455 | 460 |
| Leu Ala Gly Glu Ile Tyr Val Met Val Asn Asp Lys Pro Val Cys Lys |     |     |
| 465   | 470 | 475 |
| Pro Cys Tyr Val Lys Asn His Ala Val Val Arg Ser Val Leu Arg Ile |     |     |
| 485   | 490 | 495 |
| Trp Leu Pro Gln Pro Ala Leu Gly Leu Glu Phe Met Leu Phe Leu Lys |     |     |
| 500   | 505 | 510 |
| Pro Leu Thr Asn Gly Lys Gln Lys Ala Val Leu Leu Ser Arg Lys Gln |     |     |
| 515   | 520 | 525 |
| Ile Ile Pro Thr Thr Gly Cys                                     |     |     |
| 530   | 535 |     |

&lt;210&gt; 3821

&lt;211&gt; 5212

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3821

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&lt;210&gt; 3822

&lt;211&gt; 375

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3822

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Val | Tyr | Val | Asn | Lys | Met | Thr | Gly | Leu | Ser | Thr | Phe | Ile | Ala | Pro |
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| Thr | Glu | Asp | Ile | Gln | Ala | Ala | Cys | Thr | Lys | Asp | Leu | Thr | Thr | Val | Ala |
|     |     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |
| Val | Asp | Val | Val | Leu | Glu | Asn | Gly | Ser | Gln | Tyr | Arg | Cys | Gln | Pro | Phe |
|     |     |     | 35  |     |     |     |     |     | 40  |     |     |     | 45  |     |     |
| Arg | Ser | Asp | Leu | Val | Leu | Pro | Phe | Leu | Pro | Arg | Ala | Arg | Ala | Glu | Arg |
|     |     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |
| Thr | Val | Met | Arg | Gln | Asp | Asn | Arg | Asp | Thr | Val | Asp | Asp | Thr | Val | Ser |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ser | Glu | Ser | Leu | Gln | Ser | Leu | Phe | Ser | Glu | Trp | Asp | Asn | Pro | Val | Phe |
|     |     |     |     | 85  |     |     |     |     |     | 90  |     |     |     | 95  |     |
| Ala | Arg | Tyr | Pro | Glu | Val | Ala | Val | Asp | Val | Ser | Ser | Gly | Gln | Ala | Glu |
|     |     |     | 100 |     |     |     |     |     | 105 |     |     |     | 110 |     |     |
| Ser | Leu | Ala | Val | Lys | Ile | His | Asn | Ile | Leu | Tyr | Pro | Tyr | Arg | Phe | Thr |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Lys | Gly | Met | Ile | His | Ser | Met | Gln | Val | Leu | Gln | Gln | Val | Asp | Asn | Lys |
|     |     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |
| Phe | Ile | Ala | Cys | Leu | Met | Ser | Thr | Lys | Thr | Glu | Glu | Asn | Gly | Glu | Ala |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Asp | Ser | Tyr | Glu | Lys | Gln | Gln | Ala | Gln | Gly | Ser | Gly | Arg | Lys | Lys | Leu |
|     |     |     |     | 165 |     |     |     |     |     | 170 |     |     |     | 175 |     |
| Leu | Ser | Ser | Thr | Leu | Ile | Pro | Pro | Leu | Glu | Ile | Thr | Val | Thr | Glu | Glu |
|     |     |     | 180 |     |     |     |     |     | 185 |     |     |     | 190 |     |     |
| Gln | Arg | Arg | Leu | Leu | Trp | Cys | Tyr | His | Lys | Asn | Leu | Glu | Asp | Leu | Gly |
|     |     |     | 195 |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Leu | Glu | Phe | Val | Phe | Pro | Asp | Thr | Ser | Asp | Ser | Leu | Val | Leu | Val | Gly |
|     |     |     | 210 |     |     |     | 215 |     |     |     |     | 220 |     |     |     |
| Lys | Val | Pro | Leu | Cys | Phe | Val | Glu | Arg | Glu | Ala | Asn | Glu | Leu | Arg | Arg |

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          260          265          270
Leu Thr Val Gln Lys Val Leu Ala Ser Gln Ala Cys His Gly Ala Ile
          275          280          285
Lys Phe Asn Asp Gly Leu Ser Leu Gln Glu Ser Cys Arg Leu Ile Glu
          290          295          300
Ala Leu Ser Ser Cys Gln Leu Pro Phe Gln Cys Ala His Gly Arg Pro
305          310          315          320
Ser Met Leu Pro Leu Ala Asp Ile Asp His Leu Glu Gln Glu Lys Gln
          325          330          335
Ile Lys Pro Asn Leu Thr Lys Leu Arg Lys Met Ala Gln Ala Trp Arg
          340          345          350
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Met Pro Pro Cys Glu Pro Pro
          370          375

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&lt;210&gt; 3823

&lt;211&gt; 6280

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3823

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<211> 342

<212> PRT

<213> Homo sapiens

<400> 3824

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asn | Asn | Asn | Asn | Ser | Lys | His | Thr | Gly | His | Lys | Ser | Ala | Cys | Val | Pro |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Asn | Met | Thr | Glu | Arg | Arg | Arg | Asp | Glu | Leu | Ser | Glu | Glu | Ile | Asn | Asn |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Arg | Glu | Lys | Val | Met | Lys | Gln | Ser | Glu | Glu | Asn | Asn | Asn | Leu | Gln |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ser | Gln | Val | Gln | Lys | Leu | Thr | Glu | Glu | Asn | Thr | Thr | Leu | Arg | Glu | Gln |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Val | Glu | Pro | Thr | Pro | Glu | Asp | Glu | Asp | Asp | Asp | Ile | Glu | Leu | Arg | Gly |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Ala | Ala | Ala | Ala | Ala | Ala | Pro | Pro | Pro | Pro | Ile | Glu | Glu | Glu | Cys | Pro |
|     |     |     |     | 85  |     |     |     |     |     | 90  |     |     |     | 95  |     |
| Glu | Asp | Leu | Pro | Glu | Lys | Phe | Asp | Gly | Asn | Pro | Asp | Met | Leu | Ala | Pro |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Phe | Met | Ala | Gln | Cys | Gln | Ile | Phe | Met | Glu | Lys | Ser | Thr | Arg | Asp | Phe |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ser | Val | Asp | Arg | Val | Arg | Val | Cys | Phe | Val | Thr | Ser | Met | Met | Thr | Gly |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Arg | Ala | Ala | Arg | Trp | Ala | Ser | Ala | Lys | Leu | Glu | Arg | Ser | His | Tyr | Leu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Met | His | Asn | Tyr | Pro | Ala | Phe | Met | Met | Glu | Met | Lys | His | Val | Phe | Glu |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Asp | Pro | Gln | Arg | Arg | Glu | Val | Ala | Lys | Arg | Lys | Ile | Arg | Arg | Leu | Arg |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Gln | Gly | Met | Gly | Ser | Val | Ile | Asp | Tyr | Ser | Asn | Ala | Phe | Gln | Met | Ile |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ala | Gln | Asp | Leu | Asp | Trp | Asn | Glu | Pro | Ala | Leu | Ile | Asp | Gln | Tyr | His |

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      245      250      255
Arg Leu Ala Arg Ala Ala Ala Arg Lys Pro Arg Ser Pro Pro Arg
      260      265      270
Ala Leu Val Leu Pro His Ile Ala Ser His His Gln Val Asp Pro Thr
      275      280      285
Glu Pro Val Gly Gly Ala Arg Met Arg Leu Thr Gln Glu Glu Lys Glu
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Arg Arg Arg Lys Leu Asn Leu Cys Leu Tyr Cys Gly Thr Gly Gly His
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<210> 3825

<211> 2051

<212> DNA

<213> Homo sapiens

<400> 3825

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900

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<211> 125

<212> PRT

<213> Homo sapiens

<400> 3826

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| Gly | Ile | Pro | Gln | Ser | Arg | Ala | Cys | His | Thr | Trp | Thr | Pro | Arg | Ser | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Leu | Ala | Gly | Lys | Ala | Phe | Leu | Ser | Asp | Val | Gln | Glu | Ala | Glu | Cys | Gln |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Thr | Asp | Ser | Ser | Arg | Gly | Asn | Cys | Arg | Gly | Ser | Arg | Pro | Ala | Ser | Ser |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ile | Ser | Ser | Phe | Asp | Thr | Gly | Asp | Ile | Leu | Tyr | Ser | Pro | Phe | Ser | Arg |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 50  |     | 55  |     | 60  |     |     |     |     |     |     |     |     |     |     |     |
| Ser | Glu | Thr | Tyr | Lys | Ile | Thr | Leu | Gln | Xaa | Gly | Arg | Phe | Gln | Gly | Leu |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Lys | Asn | Ala | Lys | Val | Cys | Thr | Leu | Arg | Ala | Pro | Trp | Asn | Val | Asp | Asn |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     | 95  |     |     |
| Ser | Gly | Ser | Lys | Thr | Lys | Phe | Cys | Val | Asn | Glu | Leu | Gln | Asn | Ser | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     | 110 |     |     |     |
| Gly | Ser | Gln | Cys | His | Phe | Ile | Ile | Asp | Asn | Asn | Thr | Glu |     |     |     |
|     |     | 115 |     |     |     |     | 120 |     |     |     | 125 |     |     |     |     |

&lt;210&gt; 3827

&lt;211&gt; 1245

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3827

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<210> 3828

<211> 379

<212> PRT

<213> Homo sapiens

<400> 3828

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| Gly | Ala | Pro | Ser | Val | Gln | Asn | Lys | Ser | Pro | Lys | Ser | Asp | Glu | Glu | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     | 15  |     |     |
| Glu | Ser | Thr | Lys | Glu | Ala | Gln | Asn | Glu | Leu | Phe | Glu | Ala | Gln | Gly | Gln |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Leu | Gln | Thr | Trp | Asp | Ser | Glu | Asp | Phe | Gly | Ser | Pro | Gln | Lys | Ser | Cys |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Ser | Pro | Ser | Phe | Asp | Thr | Pro | Glu | Ser | Gln | Ile | Arg | Gly | Val | Trp | Glu |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Glu | Leu | Gly | Val | Gly | Ser | Ser | Gly | His | Leu | Ser | Glu | Gln | Glu | Leu | Ala |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |     |
| Val | Val | Cys | Gln | Ser | Val | Gly | Leu | Gln | Gly | Leu | Glu | Lys | Glu | Glu | Leu |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Glu | Asp | Leu | Phe | Asn | Lys | Leu | Asp | Gln | Asp | Gly | Asp | Gly | Lys | Val | Ser |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Leu | Glu | Glu | Phe | Gln | Leu | Gly | Leu | Phe | Ser | His | Glu | Pro | Ala | Leu | Leu |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Leu | Glu | Ser | Ser | Thr | Arg | Val | Lys | Pro | Ser | Lys | Ala | Trp | Ser | His | Tyr |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gln | Val | Pro | Glu | Glu | Ser | Gly | Cys | His | Thr | Thr | Thr | Thr | Ser | Ser | Leu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Val | Ser | Leu | Cys | Ser | Ser | Leu | Arg | Leu | Phe | Ser | Ser | Ile | Asp | Asp | Gly |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     | 175 |     |     |
| Ser | Gly | Phe | Ala | Phe | Pro | Asp | Gln | Val | Leu | Ala | Met | Trp | Thr | Gln | Glu |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Gly | Ile | Gln | Asn | Gly | Arg | Glu | Ile | Leu | Gln | Ser | Leu | Asp | Phe | Ser | Val |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Asp | Glu | Lys | Val | Asn | Leu | Leu | Glu | Leu | Thr | Trp | Ala | Leu | Asp | Asn | Glu |
|     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |
| Leu | Met | Thr | Val | Asp | Ser | Ala | Val | Gln | Gln | Ala | Ala | Leu | Ala | Cys | Tyr |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| His | Gln | Glu | Leu | Ser | Tyr | Gln | Gln | Gly | Gln | Val | Glu | Gln | Leu | Ala | Arg |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     | 255 |     |     |
| Glu | Arg | Asp | Lys | Ala | Arg | Gln | Asp | Leu | Glu | Arg | Ala | Glu | Lys | Arg | Asn |
|     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |     |
| Leu | Glu | Phe | Val | Lys | Glu | Met | Asp | Asp | Cys | His | Ser | Thr | Leu | Glu | Gln |
|     | 275 |     |     |     |     | 280 |     |     |     |     |     | 285 |     |     |     |
| Leu | Thr | Glu | Lys | Lys | Ile | Lys | His | Leu | Glu | Gln | Gly | Tyr | Arg | Glu | Arg |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Leu | Ser | Leu | Leu | Arg | Ser | Glu | Val | Glu | Ala | Glu | Arg | Glu | Leu | Phe | Trp |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Glu | Gln | Ala | His | Arg | Gln | Arg | Ala | Ala | Leu | Glu | Trp | Asp | Val | Gly | Arg |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Leu | Gln | Ala | Glu | Glu | Ala | Gly | Leu | Arg | Glu | Lys | Leu | Thr | Leu | Ala | Leu |

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<211> 5713<212> DNA

<213> Homo sapiens

<400> 3829

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&lt;210&gt; 3830

&lt;211&gt; 444

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3830

Phe Lys Glu Phe Leu Asp Leu Leu Gly Asp Thr Ile Thr Leu Gln Asp  
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 20 25 30  
 Val Glu Ser Val Tyr Thr Thr Phe Arg Asp Arg Glu Ile Met Phe His

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|
|     | 35  |     |     |     |     |     | 40  |     |     |     |     |     | 45  |     |     |  |  |  |
| Val | Ser | Thr | Lys | Leu | Pro | Phe | Thr | Asp | Gly | Asp | Ala | Gln | Gln | Leu | Gln |  |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |  |
| Arg | Lys | Arg | His | Ile | Gly | Asn | Asp | Ile | Val | Ala | Ile | Ile | Phe | Gln | Glu |  |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |  |
| Glu | Asn | Thr | Pro | Phe | Val | Pro | Asp | Met | Ile | Ala | Ser | Asn | Phe | Leu | His |  |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |  |
| Ala | Tyr | Ile | Val | Val | Gln | Val | Glu | Thr | Pro | Gly | Thr | Glu | Thr | Pro | Ser |  |  |  |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |  |  |  |
| Tyr | Lys | Val | Ser | Val | Thr | Ala | Arg | Glu | Asp | Val | Pro | Thr | Phe | Gly | Pro |  |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |  |
| Pro | Leu | Pro | Ser | Pro | Pro | Val | Phe | Gln | Lys | Gly | Pro | Glu | Phe | Arg | Glu |  |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |  |
| Phe | Leu | Leu | Thr | Lys | Leu | Thr | Asn | Ala | Glu | Asn | Ala | Cys | Cys | Lys | Ser |  |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |  |
| Asp | Lys | Phe | Ala | Lys | Leu | Glu | Asp | Arg | Thr | Arg | Ala | Ala | Leu | Leu | Asp |  |  |  |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |  |  |
| Asn | Leu | His | Asp | Glu | Leu | His | Ala | His | Thr | Gln | Ala | Met | Leu | Gly | Leu |  |  |  |
|     |     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |  |
| Gly | Pro | Glu | Glu | Asp | Lys | Phe | Glu | Asn | Gly | Gly | His | Gly | Gly | Phe | Leu |  |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |  |
| Glu | Ser | Phe | Lys | Arg | Ala | Ile | Arg | Val | Arg | Ser | His | Ser | Met | Glu | Thr |  |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |  |
| Met | Val | Gly | Gly | Gln | Lys | Lys | Ser | His | Ser | Gly | Gly | Ile | Pro | Gly | Ser |  |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |  |
| Leu | Ser | Gly | Gly | Ile | Ser | His | Asn | Ser | Met | Glu | Val | Thr | Lys | Thr | Thr |  |  |  |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |  |
| Phe | Ser | Pro | Pro | Val | Val | Ala | Ala | Thr | Val | Lys | Asn | Gln | Ser | Arg | Ser |  |  |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |  |
| Pro | Ile | Lys | Arg | Arg | Ser | Gly | Leu | Phe | Pro | Arg | Leu | His | Thr | Gly | Ser |  |  |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |  |
| Glu | Gly | Gln | Gly | Asp | Ser | Arg | Ala | Arg | Cys | Asp | Ser | Thr | Ser | Ser | Thr |  |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |  |
| Pro | Lys | Thr | Pro | Asp | Gly | Gly | His | Ser | Ser | Gln | Glu | Ile | Lys | Ser | Glu |  |  |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |  |  |
| Thr | Ser | Ser | Asn | Pro | Ser | Ser | Pro | Glu | Ile | Cys | Pro | Asn | Lys | Glu | Lys |  |  |  |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |  |  |  |
| Pro | Phe | Met | Lys | Leu | Lys | Glu | Asn | Gly | Arg | Ala | Ile | Ser | Arg | Ser | Ser |  |  |  |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |  |  |
| Ser | Ser | Thr | Ser | Ser | Val | Ser | Ser | Thr | Ala | Gly | Glu | Gly | Glu | Ala | Met |  |  |  |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |  |  |
| Glu | Glu | Gly | Asp | Ser | Gly | Gly | Ser | Gln | Pro | Ser | Thr | Thr | Ser | Pro | Phe |  |  |  |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |  |  |
| Lys | Gln | Glu | Val | Phe | Val | Tyr | Ser | Pro | Ser | Pro | Ser | Ser | Glu | Ser | Pro |  |  |  |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |  |  |  |
| Ser | Leu | Gly |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |

<210> 3831

<211> 726

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3831

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&lt;210&gt; 3832

&lt;211&gt; 107

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3832

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Ser Thr Asn Ser His Ile Asp Arg Ile Asn Phe Ser Val Lys Met Val
50     55     60
Ser Ser Ile Leu Gln Ile Pro Lys Leu Ser Tyr Leu Gly Leu Gly Asp
65     70     75     80
Ile Lys Asn Met Glu Gln Lys Tyr Cys Asn Leu Cys Ile Gln Leu Phe
85     90     95
Ile Ser Phe Leu Leu Leu Thr Val Gln Thr Phe
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&lt;210&gt; 3833

&lt;211&gt; 1764

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3833

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 1764

<210> 3834

<211> 361

<212> PRT

<213> Homo sapiens

<400> 3834

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Ser | Gly | Ser | Ala | Gly | Lys | Pro | Thr | Gly | Glu | Ala | Ala | Ser | Pro | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Pro | Ala | Ser | Ala | Gly | Gly | Gly | Ala | Ser | Ser | Gln | Pro | Arg | Lys | Lys | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Val | Ser | Val | Cys | Asp | His | Cys | Lys | Gly | Lys | Met | Gln | Leu | Val | Ala | Asp |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Leu | Leu | Leu | Leu | Ser | Ser | Glu | Ala | Arg | Pro | Val | Leu | Phe | Glu | Gly | Pro |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Ala | Ser | Ser | Gly | Ala | Gly | Ala | Glu | Ser | Phe | Glu | Gln | Gly | Arg | Asp | Thr |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     | 80  |     |
| Ile | Ile | Ala | Arg | Thr | Lys | Gly | Leu | Ser | Ile | Leu | Thr | His | Asp | Val | Gln |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Ser | Gln | Leu | Asn | Met | Gly | Arg | Phe | Gly | Glu | Ala | Gly | Asp | Ser | Leu | Val |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Glu | Leu | Gly | Asp | Leu | Val | Val | Ser | Leu | Thr | Glu | Cys | Ser | Ala | His | Ala |
|     | 115 |     |     |     |     |     | 120 |     |     |     | 125 |     |     |     |     |
| Ala | Tyr | Leu | Ala | Ala | Val | Ala | Thr | Pro | Gly | Ala | Gln | Pro | Ala | Gln | Pro |
|     | 130 |     |     |     |     | 135 |     |     |     | 140 |     |     |     |     |     |
| Gly | Leu | Val | Asp | Arg | Tyr | Arg | Val | Thr | Arg | Cys | Arg | His | Glu | Val | Glu |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     | 160 |     |
| Gln | Gly | Cys | Ala | Val | Leu | Arg | Ala | Thr | Pro | Leu | Ala | Asp | Met | Thr | Pro |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Gln | Leu | Leu | Leu | Glu | Val | Ser | Gln | Gly | Leu | Ser | Arg | Asn | Leu | Lys | Phe |
|     | 180 |     |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Leu | Thr | Asp | Ala | Cys | Ala | Leu | Ala | Ser | Asp | Lys | Ser | Arg | Asp | Arg | Phe |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Ser | Arg | Glu | Gln | Phe | Lys | Leu | Gly | Val | Lys | Cys | Met | Ser | Thr | Ser | Ala |
|     | 210 |     |     |     |     | 215 |     |     |     | 220 |     |     |     |     |     |
| Ser | Ala | Leu | Leu | Ala | Cys | Val | Arg | Glu | Val | Lys | Val | Ala | Pro | Ser | Glu |
| 225 |     |     |     |     | 230 |     |     |     | 235 |     |     |     |     | 240 |     |
| Leu | Ala | Arg | Ser | Arg | Cys | Ala | Leu | Phe | Ser | Gly | Pro | Leu | Val | Gln | Ala |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |
| Val | Ser | Ala | Leu | Val | Gly | Phe | Ala | Thr | Glu | Pro | Gln | Phe | Leu | Gly | Arg |
|     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |     |
| Ala | Ala | Ala | Val | Ser | Ala | Glu | Gly | Lys | Ala | Val | Gln | Thr | Ala | Ile | Leu |
|     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |     |
| Gly | Gly | Ala | Met | Ser | Val | Val | Ser | Ala | Cys | Val | Leu | Leu | Thr | Gln | Cys |

|                 |                             |                         |     |     |
|-----------------|-----------------------------|-------------------------|-----|-----|
| 290             |                             | 295                     |     | 300 |
| Leu Arg Asp     | Leu Ala Gln His Pro Asp Gly | Gly Ala Lys Met Ser Asp |     |     |
| 305             |                             | 310                     |     | 315 |
| His Arg Glu Arg | Leu Arg Asn Ser Ala Cys Ala | Val Ser Glu Gly Cys     |     |     |
|                 | 325                         |                         | 330 |     |
| Thr Leu Leu Ser | Gln Ala Leu Arg Glu Arg Ser | Ser Pro Arg Thr Leu     |     |     |
|                 | 340                         |                         | 345 |     |
| Pro Pro Val Asn | Ser Asn Ser Val Asn         |                         | 350 |     |
|                 | 355                         |                         | 360 |     |

&lt;210&gt; 3835

&lt;211&gt; 2366

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3835

```

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480
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1140

```

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 1320  
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 1560  
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 1740  
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 1800  
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 1920  
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 1980  
 ttcacacaca ctttctaccc aattctcacc tagtgtcacg tcccccgac cctggcacac  
 2040  
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 2100  
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 2280  
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 2340  
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 2366

&lt;210&gt; 3836

&lt;211&gt; 479

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3836

Xaa Ala Phe Asp Ile Arg Pro Glu Leu Arg Arg Ser Ser Ser Thr Leu  
 1 5 10 15  
 Glu Leu Met Arg Ala Gly Leu Val Val Ser Arg Asp Gly Ala Pro Asp  
 20 25 30  
 Gly Gly Ile Glu Gln Met Gly Leu Ala Met Glu His Gly Gly Ser Tyr

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|
|     | 35  |     |     |     |     |     | 40  |     |     |     |     |     | 45  |     |     |  |  |  |
| Ala | Arg | Ala | Gly | Gly | Ser | Ser | Arg | Gly | Cys | Trp | Tyr | Tyr | Leu | Arg | Tyr |  |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |  |
| Phe | Phe | Leu | Phe | Val | Ser | Leu | Ile | Gln | Phe | Leu | Ile | Ile | Leu | Gly | Leu |  |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |  |
| Val | Leu | Phe | Met | Val | Tyr | Gly | Asn | Val | His | Val | Ser | Thr | Glu | Ser | Asn |  |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |  |
| Leu | Gln | Ala | Thr | Glu | Arg | Arg | Ala | Glu | Gly | Leu | Tyr | Ser | Gln | Leu | Leu |  |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |  |
| Gly | Leu | Thr | Ala | Ser | Gln | Ser | Asn | Leu | Thr | Lys | Glu | Leu | Asn | Phe | Thr |  |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |  |
| Thr | Arg | Ala | Lys | Asp | Ala | Ile | Met | Gln | Met | Trp | Leu | Asn | Ala | Arg | Arg |  |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |  |
| Asp | Leu | Asp | Arg | Ile | Asn | Ala | Ser | Phe | Arg | Gln | Cys | Gln | Gly | Asp | Arg |  |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |  |
| Val | Ile | Tyr | Thr | Asn | Asn | Gln | Arg | Tyr | Met | Ala | Ala | Ile | Ile | Leu | Ser |  |  |  |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |  |  |
| Glu | Lys | Gln | Cys | Arg | Asp | Gln | Phe | Lys | Asp | Met | Asn | Lys | Ser | Cys | Asp |  |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |  |
| Ala | Leu | Leu | Phe | Met | Leu | Asn | Gln | Lys | Val | Lys | Thr | Leu | Glu | Val | Glu |  |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |  |
| Ile | Ala | Lys | Glu | Lys | Thr | Ile | Cys | Thr | Lys | Asp | Lys | Glu | Ser | Val | Leu |  |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |  |
| Leu | Asn | Lys | Arg | Val | Ala | Glu | Glu | Gln | Leu | Val | Glu | Cys | Val | Lys | Thr |  |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |  |
| Arg | Glu | Leu | Gln | His | Gln | Glu | Arg | Gln | Leu | Ala | Lys | Glu | Gln | Leu | Gln |  |  |  |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |  |
| Lys | Val | Gln | Ala | Leu | Cys | Leu | Pro | Leu | Asp | Lys | Asp | Lys | Phe | Glu | Met |  |  |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |  |
| Asp | Leu | Arg | Asn | Leu | Trp | Arg | Asp | Ser | Ile | Ile | Pro | Arg | Ser | Leu | Asp |  |  |  |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |  |
| Asn | Leu | Gly | Tyr | Asn | Leu | Tyr | His | Pro | Leu | Gly | Ser | Glu | Leu | Ala | Ser |  |  |  |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |  |
| Ile | Arg | Arg | Ala | Cys | Asp | His | Met | Pro | Ser | Leu | Met | Ser | Ser | Lys | Val |  |  |  |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |  |  |
| Glu | Glu | Leu | Ala | Arg | Ser | Leu | Arg | Ala | Asp | Ile | Glu | Arg | Val | Ala | Arg |  |  |  |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |  |  |  |
| Glu | Asn | Ser | Asp | Leu | Gln | Arg | Gln | Lys | Leu | Glu | Ala | Gln | Gln | Gly | Leu |  |  |  |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |  |  |
| Arg | Ala | Ser | Gln | Glu | Ala | Lys | Gln | Lys | Val | Glu | Lys | Glu | Ala | Gln | Ala |  |  |  |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     |     | 365 |     |     |  |  |  |
| Arg | Glu | Ala | Lys | Leu | Gln | Ala | Glu | Cys | Ser | Arg | Gln | Thr | Gln | Leu | Ala |  |  |  |
|     |     | 370 |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |  |  |
| Leu | Glu | Glu | Lys | Ala | Val | Leu | Arg | Lys | Glu | Arg | Asp | Asn | Leu | Ala | Lys |  |  |  |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     |     |  |  |  |

465

470

475

&lt;210&gt; 3837

&lt;211&gt; 2084

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3837

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 180  
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 840  
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 1080  
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 1980  
 gagcactctg gggcagcctg gctcagggtt attgatatttc gtctgtttac cctatccatt  
 2040  
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 2084

&lt;210&gt; 3838

&lt;211&gt; 468

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3838

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | His | Pro | Thr | Asp | Trp | Asp | Gly | Lys | Val | Ser | Glu | Ile | Lys | Lys | Lys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ile | Lys | Ser | Ile | Leu | Pro | Gly | Arg | Ser | Cys | Asp | Leu | Leu | Gln | Asp | Thr |
|     |     |     | 20  |     |     |     | 25  |     |     |     |     |     | 30  |     |     |
| Ser | His | Leu | Pro | Pro | Glu | His | Ser | Asp | Val | Val | Ile | Val | Gly | Gly | Gly |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Val | Leu | Gly | Leu | Ser | Val | Ala | Tyr | Trp | Leu | Lys | Lys | Leu | Glu | Ser | Arg |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Arg | Gly | Ala | Ile | Arg | Val | Leu | Val | Val | Glu | Arg | Asp | His | Thr | Tyr | Ser |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Gln | Ala | Ser | Thr | Gly | Leu | Ser | Val | Gly | Gly | Ile | Cys | Gln | Gln | Phe | Ser |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Leu | Pro | Glu | Asn | Ile | Gln | Leu | Ser | Leu | Phe | Ser | Ala | Ser | Phe | Leu | Arg |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Asn | Ile | Asn | Glu | Tyr | Leu | Ala | Val | Val | Asp | Ala | Pro | Pro | Leu | Asp | Leu |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Arg | Phe | Asn | Pro | Ser | Gly | Tyr | Leu | Leu | Leu | Ala | Ser | Glu | Lys | Asp | Ala |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ala | Ala | Met | Glu | Ser | Asn | Val | Lys | Val | Gln | Arg | Gln | Glu | Gly | Ala | Lys |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Val | Ser | Leu | Met | Ser | Pro | Asp | Gln | Leu | Arg | Asn | Lys | Phe | Pro | Trp | Ile |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Asn | Thr | Glu | Gly | Val | Ala | Leu | Ala | Ser | Tyr | Gly | Met | Glu | Asp | Glu | Gly |

180 185 190  
 Trp Phe Asp Pro Trp Cys Leu Leu Gln Gly Leu Arg Arg Lys Val Gln  
 195 200 205  
 Ser Leu Gly Val Leu Phe Cys Gln Gly Glu Val Thr Arg Phe Val Ser  
 210 215 220  
 Ser Ser Gln Arg Met Leu Thr Thr Asp Asp Lys Ala Val Val Leu Lys  
 225 230 235 240  
 Arg Ile His Glu Val His Val Lys Met Asp Arg Ser Leu Glu Tyr Gln  
 245 250 255  
 Pro Val Glu Cys Ala Ile Val Ile Asn Ala Ala Gly Ala Trp Ser Ala  
 260 265 270  
 Gln Ile Ala Ala Leu Ala Gly Val Gly Glu Gly Pro Pro Gly Thr Leu  
 275 280 285  
 Gln Gly Thr Lys Leu Pro Val Glu Pro Arg Lys Arg Tyr Val Tyr Val  
 290 295 300  
 Trp His Cys Pro Gln Gly Pro Gly Leu Glu Thr Pro Leu Val Ala Asp  
 305 310 315 320  
 Thr Ser Gly Ala Tyr Phe Arg Arg Glu Gly Leu Gly Ser Asn Tyr Leu  
 325 330 335  
 Gly Gly Arg Ser Pro Thr Glu Gln Glu Glu Pro Asp Pro Ala Asn Leu  
 340 345 350  
 Glu Val Asp His Asp Phe Phe Gln Asp Lys Val Trp Pro His Leu Ala  
 355 360 365  
 Leu Arg Val Pro Ala Phe Glu Thr Leu Lys Cys Phe Val His Pro Gln  
 370 375 380  
 Val Gln Ser Ala Trp Ala Gly Tyr Tyr Asp Tyr Asn Thr Phe Asp Gln  
 385 390 395 400  
 Asn Gly Val Val Gly Pro His Pro Leu Val Val Asn Met Tyr Phe Ala  
 405 410 415  
 Thr Gly Phe Ser Gly His Gly Leu Gln Gln Ala Pro Gly Ile Gly Arg  
 420 425 430  
 Ala Val Ala Glu Met Val Leu Lys Gly Arg Phe Gln Thr Ile Asp Leu  
 435 440 445  
 Ser Pro Phe Leu Phe Thr Arg Phe Tyr Leu Gly Glu Lys Ile Gln Glu  
 450 455 460  
 Asn Asn Ile Ile  
 465

&lt;210&gt; 3839

&lt;211&gt; 758

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3839

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 120  
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 180  
 gctttggggc aagccatcac cctccatcca gaatctgcca tttcaaaaag caagatgggg  
 240  
 ctaaccccc tatggcgaga cagctcagct ctctcaagcc agcggaatag tttcccaact  
 300

tccttttggga ccagctctta ccagccccc cctgcacctt gtttgggggg agttcatect  
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 420  
 ggacacaacc tgcatacagac tggcccagcc cctccccctg ctgtgtctga gtcttggcct  
 480  
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 540  
 caccaccacc ctcatgccc catgcaccac cgccaccgcc accatcatca ccatcaccac  
 600  
 cctctgtctg gctctgccct ggatccatcc tatgggcctc tgctgatgcc ttcagtgcac  
 660  
 gcggccagga ttctgtctcc ccagtgtgac atcacaaaga cagaaccaac tacagtcacc  
 720  
 tctgtacct cagcatgggc tggagccttt catggaac  
 758

&lt;210&gt; 3840

&lt;211&gt; 252

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3840

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Xaa | Arg | Val | Gln | Asp | Ser | Leu | Glu | Val | Thr | Leu | Pro | Ser | Lys | Gln | Glu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Glu | Glu | Asp | Glu | Glu | Glu | Glu | Glu | Glu | Glu | Lys | Asp | Gln | Pro | Ala | Glu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Met | Glu | Tyr | Leu | Asn | Ser | Arg | Cys | Val | Leu | Phe | Thr | Tyr | Phe | Gln | Gly |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |
| Asp | Ile | Gly | Ser | Val | Val | Asp | Glu | His | Phe | Ser | Arg | Ala | Leu | Gly | Gln |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ala | Ile | Thr | Leu | His | Pro | Glu | Ser | Ala | Ile | Ser | Lys | Ser | Lys | Met | Gly |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Leu | Thr | Pro | Leu | Trp | Arg | Asp | Ser | Ser | Ala | Leu | Ser | Ser | Gln | Arg | Asn |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Ser | Phe | Pro | Thr | Ser | Phe | Trp | Thr | Ser | Ser | Tyr | Gln | Pro | Pro | Pro | Ala |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Pro | Cys | Leu | Gly | Gly | Val | His | Pro | Asp | Phe | Gln | Val | Thr | Gly | Pro | Pro |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Gly | Thr | Phe | Ser | Ala | Ala | Asp | Pro | Ser | Pro | Trp | Pro | Gly | His | Asn | Leu |
|     | 130 |     |     |     |     | 135 |     |     |     | 140 |     |     |     |     |     |
| His | Gln | Thr | Gly | Pro | Ala | Pro | Pro | Pro | Ala | Val | Ser | Glu | Ser | Trp | Pro |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Tyr | Pro | Leu | Thr | Ser | Gln | Val | Ser | Pro | Ser | Tyr | Ser | His | Met | His | Asp |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Val | Tyr | Met | Arg | His | His | His | Pro | His | Ala | His | Met | His | His | Arg | His |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Arg | His | His | His | His | His | His | His | Pro | Pro | Ala | Gly | Ser | Ala | Leu | Asp |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Pro | Ser | Tyr | Gly | Pro | Leu | Leu | Met | Pro | Ser | Val | His | Ala | Ala | Arg | Ile |
|     | 210 |     |     |     |     | 215 |     |     |     | 220 |     |     |     |     |     |
| Pro | Ala | Pro | Gln | Cys | Asp | Ile | Thr | Lys | Thr | Glu | Pro | Thr | Thr | Val | Thr |
| 225 |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     | 240 |     |
| Ser | Ala | Thr | Ser | Ala | Trp | Ala | Gly | Ala | Phe | His | Gly |     |     |     |     |

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 180  
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 240  
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 367

<210> 3842  
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 <212> PRT  
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<400> 3842  
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 Gly Ala Ile Val Ala Ala Met Gly Ile Val Cys Phe Leu Phe Leu Ile  
 35 40 45  
 Glu His Pro Asn Asp Val Arg Cys Ser Ser Thr Leu Val Thr His Ser  
 50 55 60  
 Lys Gly Tyr Glu Asn Gly Thr Asn Arg Leu Ser Leu Pro Lys Pro Ile  
 65 70 75 80  
 Leu Lys Ser Glu Lys Asn Lys Pro Leu Asp Pro Glu Met Gln Cys Leu  
 85 90 95  
 Leu Leu Ser Asp Gly Lys Gly Ser Ile His Pro Asn His Val Val Ile  
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<210> 3844

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<212> PRT

<213> Homo sapiens

<400> 3844

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| Met | Ala | His | Val | Gly | Ser | Arg | Lys | Arg | Ser | Arg | Ser | Arg | Ser | Arg | Ser | 1   | 5   | 10  | 15 |
| Arg | Gly | Arg | Gly | Ser | Glu | Lys | Arg | Lys | Lys | Lys | Ser | Arg | Lys | Asp | Thr | 20  | 25  | 30  |    |
| Ser | Arg | Asn | Cys | Ser | Ala | Ser | Thr | Ser | Gln | Gly | Arg | Lys | Ala | Ser | Thr | 35  | 40  | 45  |    |
| Ala | Pro | Gly | Ala | Glu | Ala | Ser | Pro | Ser | Pro | Cys | Ile | Thr | Glu | Arg | Ser | 50  | 55  | 60  |    |
| Lys | Gln | Lys | Ala | Arg | Arg | Arg | Thr | Arg | Ser | Ser | Ser | Ser | Ser | Ser | Ser | 65  | 70  | 75  | 80 |
| Ser | Ser | Ser | Ser | Ser | Ser | Ser | Ser | Ser | Ser | Ser | Ser | Ser | Ser | Ser | Ser | 85  | 90  | 95  |    |
| Ser | Ser | Asp | Gly | Arg | Lys | Lys | Arg | Gly | Lys | Tyr | Lys | Asp | Lys | Arg | Arg | 100 | 105 | 110 |    |
| Lys | Lys | Lys | Lys | Lys | Arg | Lys | Lys | Leu | Lys | Lys | Lys | Gly | Lys | Glu | Lys | 115 | 120 | 125 |    |
| Ala | Glu | Ala | Gln | Gln | Ala | Glu | His | His | Pro | Gln | Gly | Gly | Gly | Pro |     | 130 | 135 | 140 |    |

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<211> 197

<212> PRT

<213> Homo sapiens

<400> 3846

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Cys | Lys | Gly | Asn | His | Ala | Lys | Glu | Ala | Gly | Cys | Thr | Ile | Arg | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Cys | Arg | Ala | Gly | Leu | Trp | Gly | Pro | Ala | Asp | Pro | Ser | Ser | Gln | Asn | Gln |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Gly | Pro | Ala | Glu | Pro | Arg | Val | Ala | Gly | Ala | Gly | Ala | Ala | Ala | Ala | Glu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly | Ala | Ala | Ala | Gly | Ala | Cys | Gly | Pro | Ala | Arg | Cys | Ala | Asp | Gln | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gly | Ala | Arg | Glu | Arg | Gly | Gly | Arg | Gly | Gly | Arg | Gly | Ala | Gly | Gly | Gly |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Gly | Gly | Ala | His | Gly | His | Phe | Pro | Gln | Arg | Pro | Pro | Gln | Gln | Ala | Gly |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Gln | Arg | Ala | Ala | Ser | Arg | Ala | Gly | Cys | Gly | His | Arg | Gln | Leu | Gln | Arg |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ala | Pro | Ala | Pro | Gly | Leu | Arg | Gln | His | Pro | Cys | Gly | Ser | Gly | Thr | Glu |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Gly | Leu | Arg | Gly | Gly | His | Leu | Ser | Glu | Thr | Val | Cys | Ala | His | Ala | Glu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Arg | Thr | Gln | Ala | Pro | Leu | Gln | Ser | Ala | Leu | Gly | Gln | Pro | Ala | Pro | Arg |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Pro | His | Thr | Leu | Gln | Arg | His | Leu | Gly | Pro | His | Ala | Thr | Gly | His | Gly |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Ala | Gly | Arg | Arg | Leu | Gln | Ala | Asp | Thr | Gly | Ala | Phe | Ser | Pro | Pro | Asp |